

# MONEY

*IN ITS RELATIONS TO*

# TRADE AND INDUSTRY

BY

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# CONTENTS.

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CHAPTER	PAGE
I.—The Medium of Exchange .....	I
II.—The Value Denominator, or Common Denominator in Exchange, usually called the Measure of Value .....	27
III.—The Standard of Deferred Payments, usually called the Standard of Value .....	56
IV.—Metallic Inflation, or the Effects of an Increase of Me- tallic Money .....	78
V.—Metallic Contraction, or the Effects of a Decrease of Metallic Money .....	104
VI.—Silver and Gold as Money .....	137
VII.—Modern Bimetallism .....	164
VIII.—Government Paper Money .....	196
IX.—The Abuses of Government Paper Money.....	222
X.—Bank Money .....	247
XI.—English Bank Money and the Act of 1844. ....	275
XII.—Bank Money in the United States.....	299





## PREFACE.

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THE present work differs from the treatise on Money published in 1878, of which it is, in a certain sense, an abridgment, in two respects. In the publication of 1878, comprising lectures delivered in a university, it was sought to trace the history of doctrines, and copious extracts were given with a view to introduce the student to the literature of the subject. The present work, consisting of lectures delivered before a popular audience, in the Lowell Institute of Boston, does not profess to deal with the literature of the Money Question; and I have been content to reach correct results without undertaking, in all or most cases, to balance conflicting views against each other, and set out the arguments on either side according to the methods of the classroom.

There is a second respect in which the present work differs from its predecessor. In my Baltimore lectures I held strictly to the topic of Money, denying myself any excursion into general economics, and stopping short always on the line which bounded my immediate subject. In the Boston lectures the title of the course was enlarged to take in the relations of Money to Trade and Industry. Under this extension of plan, the present work deals with many questions which lay beyond the scope of the former.

I have seen no reason to modify at any essential point the views of the nature and uses of money which were set forth in that work, and I have not thought it necessary to alter modes of expression merely to avoid the appearance of identity between corresponding portions of the two books.

Not only the general progress of opinion, but the course of public events during the past two years, will serve to explain the greater emphasis which is here laid upon the question of Bimetallism, and the introduction of the political aspects of the subject, from which, in the former publication, I deemed myself precluded.

In dealing with the question of Inconvertible Paper Money, it has been sought to trace out the ground upon which economists may take and maintain a stand against Government issues. Doubtless it will appear to many that too much ground has been surrendered to the advocates of fiat-money; but I am satisfied that no more can be held by the friends of "honest money," who are bound also to be the friends of honest argument. The claim that "greenbacks" are not money in the fullest sense of that term; that they cannot do all in the way of measuring values, so called, which gold or silver may do, is untenable, and it can be of no advantage to any really sound cause to seek to maintain it.

NEW HAVEN, April 15, 1879.

# MONEY AND TRADE.



## CHAPTER I.

### THE MEDIUM OF EXCHANGE.

It is our present object to inquire, what Money is, and what Money does. But while this title follows the usual order of expression, we note, at the outset, that the first question is to be answered only after and through the second. That is money; all that is money, only that is money, which performs a certain office. To parody a familiar proverb: Money is that Money does.

Not a little of the confusion which has reigned in this department of inquiry has resulted from the failure of writers to fix their attention persistently on the money function, and to treat that as money, all that, and only that, which performs this function. Nearly all systematic writers on political economy allow themselves, at a certain stage in their investigations, to be diverted from the contemplation of the office of money, and begin to generalize what they observe as the common features of those numerous forms of money which appear in a primitive condition of industrial society. Proceeding,

then, to consider how exchanges are effected in the modern and more complicated social system, they find an instrument in use which they compare with their generalized definition of money, and finding a failure of correspondence at a vital point, they reject this instrument as not money. Observing still another form of the same instrument, which they find liable to grave abuse, and, in fact, not infrequently, or even habitually, so abused, and having decided that money is a good thing, they reject this also as being not money, because it is a bad thing, as they esteem it; whereas we shall, I think, reach the conclusion that, in addition to the discrimination of things as Money and Not-Money, based on the determination whether they do, or do not, perform the money function, we must make the further discrimination between Good Money and Bad Money, a distinction observed by scarcely a single writer of eminence on this theme.

Let me repeat, money is to be known by its doing a certain work. Money is not gold, though gold may be money; sometimes gold is money and sometimes it is not. Money is no one thing, no group of many things having any material property in common. On the contrary, any thing may be money; and any thing, in a given time and place, is money which then and there performs a certain function. Always and everywhere that which does the money-work is the money-thing.

The conclusion which the text-book writers, with a few notable exceptions, have derived from the contemplation of what I may call the primitive

forms of money, including herein silver and gold, not less than oxen and wheat, is that money is and must be "a material recompense, or equivalent." The phrase is that of M. Chevalier, the eminent French economist, as translated by Mr. Cobden. Let us test the validity of this conclusion.

We have just passed through an exciting political contest, to which I beg permission to refer, but for no partisan purpose.

In the late election the main contest everywhere at the North, at least, was about the financial issue. The orators and the newspapers of the hard-money party pretty much everywhere took the ground that the legal-tender notes issued by the United States Government, inconvertible in fact, were not money. Their claim was not that the greenbacks were bad money, but that they were not money at all; and in this they followed closely enough the line of reasoning and even the language of the most eminent economists of this and other countries

Yet the great majority of those who heard the speeches of the hard-money orators and read the editorials of the hard-money journals, must have been dissatisfied with the reasoning and with the result. Plain men know perfectly well that greenbacks are money, and have been money these seventeen years—bad money, if you please, but none the less money. And there is too much reason to believe that when the common-sense of the uninstructed auditor and reader overrode the distinctions by which it was sought to exclude the greenback from the category of money, prejudice may have been

derived against the entire body of economical views that were being presented in the immediate connection. Certainly the advocate of hard money is stronger in urging that inconvertible paper is bad money, than in arguing that it is not money at all.

Money is commonly defined as the MEDIUM OF EXCHANGE. While the term is somewhat too vague for exact definition, yet, as this phrase is commonly understood, it is correct.

Money is that which passes freely from hand to hand throughout the community, in final discharge of debts and full payment for commodities, being accepted equally without reference to the character or credit of the person who offers it, and without the intention of the person who receives it to consume it, or enjoy it, or apply it to any other use than, in turn, to tender it to others in discharge of debts or payment for commodities.

Let us take an illustration from the history of Virginia. Tobacco early became the staple export of that colony. Since tobacco was in unfailing demand for shipment abroad, it was readily taken at the country store. Every planter brought his tobacco thither with perfect assurance, knowing that it would be taken as a matter of course. Every week, or every month, the trader loaded up his teams and sent his stock of tobacco to the sea-shore, where, in the chief towns, it was exchanged against West India goods, dry goods, hardware, etc., imported from abroad. With these the teams returned loaded; and the planters took the rum, the molasses, the

### *TOBACCO MONEY.*

cloth, the boots, the tools they wanted, to the amount of the credit given them for their tobacco.

Such a use of tobacco, however, did not make it money. The transactions thus far described were merely instances of barter, notwithstanding that the foreign exporter, the Virginia importer, and the country storekeeper were all intermediaries between the tobacco grower, and the planter who produced the rum and molasses of Havana, or the manufacturer of cloth, of boots, or of hoes in Old England.

But the fact that tobacco was thus freely taken at the country store soon led to a further extension of its use in exchange which constituted it money. Since it was so freely taken at the store, in exchange for goods of every kind, it was freely taken between man and man throughout the community. The lawyer and the physician did not hesitate to receive their pay in tobacco, because tobacco was always good for groceries and dry goods; while the fact that tobacco was taken not only by the storekeeper but also by the lawyer and physician, made the farmer who raised corn willing also to take it in exchange for his product.

And so tobacco became money in Virginia. It was not, however, until pretty much everybody took it, and took it as a matter of course, that it was entitled to be called money. So long as men accepted it with any great degree of uncertainty as to their finding a person who would in turn take it from them, so long as men accepted it with the feeling that it was something which they were buying, and which they would have to sell over again,

something for which they must needs hunt up a purchaser, tobacco was not money.

The extensive use of an article in exchange does not, we see, necessarily constitute that article money. The transactions, however numerous and important, may be nothing but acts of barter. It is essential to money that it shall have acceptability so nearly universal that practically every person who has any product or service to dispose of, will freely, gladly take it, in preference to seeking at the time the specific products or services which he may require from others, since he is fully assured that with this thing, money, he can, at times and in form and amount to suit his immediate necessities, obtain what he shall desire. Each person, thus, in his place in the industrial order, receives money without the slightest reference either to his own need to consume any of the particular article so used, or to the character and credit of the person who offers it. He takes it from any man, whenever he has any thing to sell, because he knows that any other man will take it from him whenever he wishes in his turn to buy. When an article reaches this degree of acceptability, it becomes money, no matter what it is made of, and no matter why people want it. The carved pebbles formerly used by the Ethiopians; the wampum which circulated in the seventeenth century between the New England colonists and the natives; the glass beads used in small payments along the Arabian gulf, the shells and red feathers employed throughout the islands of the Indian ocean, were money, though capable of serv-



ing no purpose but that of ornament and decoration.

It is in view of this general or universal acceptability of money, while other things are only taken in exchange by those who individually need them for consumption, or by those who have peculiar facilities, as merchants or brokers, for disposing of them, that many writers speak of money as a pledge or security for whatever the holder may wish, now or hereafter, to obtain. Thus Adam Smith says, "A guinea may be considered as a bill for a certain quantity of necessaries or conveniences, upon all the tradesmen of the neighborhood."

And we note not only that money thus gives the holder the assurance that he shall obtain the products or the services of others, whenever he shall desire them, at the rates of exchange then ruling, with greater ease and certainty, and with greater convenience as to kinds and amounts, than would be possible under the conditions of Barter; but that men do not, as a rule, take money to consume it, or to enjoy it, or to use it in any other way than to pass it along in exchange, whenever they get ready to acquire and take possession of the proper equivalents for the products or services with which they parted to obtain the money in the first instance.

This is the central idea of a Medium of Exchange. Money is always a medium, an intermediate thing; a means, not an end.

Men take it, not for its own sake, but for what it will bring them; they hold it, not to enjoy it, but to be ready for the moment when they shall part with it to obtain that which they will enjoy.

Now, the money function being what has been described, let us inquire more particularly into the reason of the exclusion from the category of money of every thing which is not "a material recompense or equivalent," to use M. Chevalier's phrase; of every thing which has not "intrinsic value," to use the phrase by which Professor Bowen seeks to express the same idea.

And, first, let us take the case of Bank Notes. Such notes, when issued, pass immediately into use in effecting exchanges between man and man. Individual notes remain out one year, three years, five years, circulating meanwhile from hand to hand, from town to town, being taken freely at their face, in full payment for commodities, in final discharge of debts. Of those persons who have any thing to sell, nineteen out of twenty take notes in preference to any product or service which the purchasers may at the time be able to give in return. They do so because they know that, by means of the notes, they can obtain, at some other time, or of some other person, that which will, in form, in amount, in place, better answer their needs.

When any producer of wealth parts with his commodity or service for a bank note, he feels that he has acquired thereby a pledge of every reasonable degree of assurance that he shall secure an actual equivalent for what he relinquishes, when he wants it, and where he wants it. When, in turn, he gives up his bank note in the purchase of any commodity or service, he knows that he has resigned his pledge, and has received, in form, time, and place most agree-

able to himself, all that he is entitled to in consideration of the original service which brought him the note.

Now, wherein does the bank note fail to perform the whole function of money, and thus to be money? To this question only one answer has ever been made. That such an answer should have been given by writers of deserved reputation, and been accepted as sufficient by their critics and by the general public, affords a striking illustration of the delusive power of plausible phrases.

The bank note, it is said, is not money, inasmuch as it is a form of credit. It is a promise to pay money; it is not money. Such an answer, though given by writers entitled to great respect, must be pronounced to be utterly inconclusive. To say that a bank note is a promise to pay money is to beg the question. A bank note is a promise to pay gold or silver, and therefore, if you please, is neither gold nor silver; but wherefore not money? Money is that money does; and the bank note performs the money function in every particular.

But, it is said, the bank note is a form of credit. Now, let us grant at once the vital distinction between taking credit and paying money. If I purchase a farm from any one, and give him my promise to pay him at some future date, that promise, whatever form it takes, whether written on paper, or stamped upon brass, whatever my character or competence, whether I be rich or poor, honest or dishonest, is not money. The goods are not paid for, but are yet to be paid for. I have taken credit; I

others will take the note from him at what he took it for from the last holder. If that be so, he does not care whether it is ever paid by the bank or not.

Suppose I hold in my hand a note which I have just received in payment for a day's work, and an angelic apparition of undoubted authenticity announces to me that the note will never be redeemed, but will be burned up in 1880. What do I care for that? I am not going to keep the note till 1880. I can think now of the very things I shall buy with it as surely as I get to the grocery this evening. I have taken it for a day's work as the most convenient way of getting a day's living. Sufficient unto the day is the evil thereof, is the maxim of all bank note holders. So long as no doubt exists that the notes will pass without question when the time comes to spend them, there will be no hesitation about taking them, even though angelic apparitions should announce that, instead of their being burned up in 1880, the bank would burst next week.

For the reasons given, it appears to me that we must admit bank notes to the category of Money. So long as the paper passes from hand to hand, and is accepted, whether with or without force of law, by the creditor in final discharge of debts, or by the seller in full payment for goods, without further resort, it must be deemed to be money. It may be good money, it may be bad money. But in its universal acceptability, however obtained, in the fact of its general currency as a medium of exchange, we have the single condition of money realized.

While this is not the view of the majority of economists, it is not wholly without authority. "If," says M. Wolowski, "bank notes are not money in the scientific strictness of the term, they at least have all its attributes."

"Bank notes," says Mr. Nicholson, in his *Science of Exchange*, "or transferable promises to pay coin to bearer on demand, circulating side by side with coin in endless succession, liquidating debts like coin, and which, when in circulation, all business people are, as it were, compelled to take, are absolutely money."

Similar to this was the view of Lord Mansfield. "Bank notes," said that great jurist, "are not like bills of exchange—mere securities or documents for debts; nor are so esteemed, but are treated as money in the ordinary course and transaction of business by the general consent of mankind."

But it may be objected that there is by law a recourse, in the case of bank notes, of the seller to the buyer of goods, in case the notes are not paid upon presentation to the bank. Is not this fatal to the claim that such notes are money?

If the receiver of bank bills had theoretically a recourse to the person from whom he took them, complete in every respect and without limitation as to time, yet if, in fact, that liability were not enforced, if people actually took notes and passed them without reference thereto, that liability would not make the slightest difference with the claim of the bank notes to be considered money. The question, money or not money, is purely a question of

fact ; of the liveness and freedom of circulation and acceptance in exchange

But what is the law in respect to the liability of a person passing a bank note ?

In England, where the analogy of the bank cheque appears to have influenced the judicial decisions, the receiver has a limited resort to the person from whom he takes a note, in case the bank shall fail before it has been in his power to present the paper for redemption

"This responsibility, however," says Mr. J. R. McCulloch, "seldom exceeds a couple of hours, and can hardly, in any case, exceed a couple of days. In practice, it is never resorted to "

It is not to be questioned that Mr McCulloch here correctly states the habits of trade in the respect of receiving bank notes

We ordinarily take notes with no other scrutiny, at the most, than to satisfy ourselves that they are not counterfeit We make no memorandum of the persons from whom we receive them, with the view of enforcing their liability, we never think of going at once, with the notes, or sending them by an agent, to the place of issue, in order that if payment should be refused we may have such recourse ; and, though the responsibility of the person passing a note expires within two or three hours, or, at the longest, within two or three days, we hold notes often for weeks, according to our occasions for expenditure, and most of us would probably be unable to tell from whom we received any particular bill in our possession.

In England, indeed, where no notes of less than £5 are issued, it is not infrequently the usage of business houses to keep a record of notes received and paid out, but that is not for the purpose of enforcing the liability referred to, but for the purpose of tracing the passage of counterfeit notes, or of identifying the notes should they be stolen.

It has been said that the analogy of the bank cheque has influenced the decisions of the English courts to establish a theoretical liability for the payment of the note in case the person receiving it immediately carries or sends it to the bank and demands its redemption. Some of the American States have followed the English rule in this respect; but in other States, with a better comprehension of the relations of the modern bank note to the needs of trade, it has been held by the courts that the acceptance of bank notes constitutes a sufficient payment, even though the bank were insolvent at the time, provided the tender was made in good faith.

But it may be asked why, if bank notes are money, are cheques not money?

The answer is easy and conclusive.

✓ 1. While bank notes are a form of credit between the holder and the issuer only, and not also between the buyer and the seller of goods, cheques are a form of credit both between the holder and the issuer, and between the buyer and the seller. If I buy a horse and give my cheque, I have not made payment. If the cheque is not honored on presentation within a reasonable time—and of this men

taking cheques generally make sure, the receiver comes back to me. •

✓ 2 Cheques are taken with reference to the character and presumed competence of the persons offering them. If I did not know a person to be respectable, and presume him to be pecuniarily responsible, I should not take his cheque and part with my goods. I take notes from a man in payment for whatever I have to sell, not caring what his character or standing is, and probably not knowing his name, occupation, or residence.

✓ 3. Cheques generally pass by successive endorsements, each person so endorsing the paper making himself responsible for its payment, and the cheque thus preserving a complete record of its course in circulation. A bank note leaves no trace of its movement. The last holder neither knows nor cares who has had it before him.

It is scarcely necessary to say that what has been alleged of bank cheques, as showing that they are not money, holds true in a still higher degree of bills of exchange, which are only more formal, slower in circulation, more dependent for their acceptance on the character and presumed competence of the person by whom they are offered, and more full in the record of their course in circulation.

Is Inconvertible Paper Money, whether lacking the quality of present convertibility into coin through the bankruptcy or pecuniary embarrassment of the government or the bank issuing it, or being mere "Fiat-money," circulating under the authority of law, conversion into coin not being expected or



promised—is this money, in the sense of the political economist?

The student of money is, of course, not concluded by the popular use of words, though he may often derive therefrom valuable suggestions of truths not yet discovered, and striking illustrations of accepted principles. The people universally call such circulating paper money. The economists very generally deny that it is money. Who are right in the matter? If our analysis thus far is correct, the question becomes one wholly of fact. Does this paper pass freely from hand to hand? Is it taken with or without respect to the character and presumed competence of the person tendering it? No matter why they take it, whether by force of law or because of its convenience, do men exchange their products or services against it, or do they go about to make exchange in kind, in order to avoid its use? Is there further recourse to the person who has tendered it?

These questions answer themselves. Inconvertible notes, whether inconvertible by delinquency or by intention, are money just so far and just so long as they perform the money function, already so fully described. They may be good money, they may be bad money, but they are money so long and so far as they act as the common medium of exchange, in the sense which has been given to that term. The influence of such money upon industry, trade, and society may be mischievous, may be pernicious, but that is not the present question. It would be just as correct to say that whiskey is not drink, be

cause one deprecates its use as drink, as to say that inconvertible notes are not money, because one deprecates their use as money. Drink is not necessarily beneficial. Money may be money, in spite of the most injurious effects.

Such as has been described is the function of money: The Common Medium of Exchange. Its importance can scarcely be overestimated. "It has been wisely said," remarks M. Chevalier, "that there is no machine which economizes labor like money."

Illustrations of the use of money taken from a primitive condition of society and industry are to be found in every writer on money and in every systematic treatise on political economy. The perplexities of butchers, bakers, bootmakers, tailors, masons, and carpenters, who in the absence of money should seek to exchange their products or services with each other; the loss of energy and the waste of time involved in securing the "double coincidence of wants and of possessions" which is required in barter, it almost invariably turning out that the person to whom you offer your product or service either doesn't want what you have, or hasn't what you want—these have been dwelt upon, seriously or sportively, by so many economists and popular lecturers that they need not be recited here.

It is fairly a matter of doubt, however, whether these illustrations of the difficulties of barter in a primitive state do not, after all, make an impression so inadequate as to engender views altogether erroneous. The persons taken for the purposes of the

illustration are men known to each other, each working by himself and producing by his own labor and capital the whole of the articles he desires to exchange for others ; the articles taken for the purposes of the illustration are simple necessities of life in universal request Under these conditions, it is manifest that the butcher, the baker, and the bootmaker would at last get together, in spite of obstacles, and would exchange their products ; and it is further manifest that, through the natural introduction of a forum or common market place, a device too simple to escape the mind of the reader of such descriptions, these artisans might do this very easily.

But if we step at once forward to the highly organized forms of industry which characterize modern society, and there consider the inconveniences of barter, after the introduction of the general market, or place of common resort, and even after the invention of the credit system, we shall find them such as to constitute a most onerous and oppressive tax upon production, amounting in many, perhaps in most cases, to absolute prohibition.

The multiplication of occupations, the diversification of products, would be subject to such heavy penalties in the way of a complicated and retarded exchange as to be practically suppressed. Rather than submit to the annoyances and loss of time which are necessitated by exchanges in kind, most men would prefer to sacrifice their own special aptitudes and the great advantages of the division of labor, and would make for themselves the whole or the most part of what they required. Even the artisan, who

should have the perseverance to stick to his specialized trade, would generally wait for articles to be ordered before making them, rather than meet the vexation and waste of a tardy and dubious demand for goods produced in advance of orders.

Justly, then, does Gibbon remark, "The value of money has been settled by general consent to express our wants and our property, as letters were invented to express our ideas; and both these institutions, by giving a more active energy to the powers and passions of human nature, have contributed to multiply the objects they were designed to express."

Of the articles which have at one period or another, in one country or another, performed the function of money, it can not be necessary to offer a catalogue here. No small proportion, indeed, of the objects which compose the wealth of primitive communities have now or then, here or there, attained such a degree of general acceptability as to become money.

Wheat, corn, and rye have extensively fulfilled this office. It is manifest that these and other cereals have two important qualifications for use as money: first, through being in universal request for personal consumption as food, and, secondly, in allowing the almost indefinite subdivision of the quantity representing a day's labor. But they are subject to two serious drawbacks: first, in the great weight of the quantity which represents a day's labor; and, secondly, in their liability to deterioration through rust, insects, excessive moisture, undue heating, or by the mere passage of time.

Cattle also have extensively fulfilled this office. Oxen were used as money among the Greeks of the Homeric period. Sheep served the Italians at a later period as the common medium of exchange; and even after the abandonment of Britain by the Romans, we find the inhabitants, in the scarcity of coin, returning to the use of "living money," especially in Scotland and Wales. "It is very possible," says Sir Henry Maine, "that kine were first exclusively valued for their flesh and milk; but it is clear that, in very early times, a distinct and special importance belonged to them as the instrument or medium of exchange."

Cattle and sheep may be either a good money or an inconvenient money, according to the circumstances of the community. In a pastoral state, they present many advantages for use as money. They carry themselves, and thus avoid the principal objection which withstands the employment of grain in this capacity. The opportunities which exist all around for grazing, and the familiarity of every member of the society with the methods of guarding and tending animals, reduce the trouble and risk of using them.

On the other hand, cattle and sheep have two serious drawbacks in such use. The first is that, even where they are most easily reared, each animal represents too large an expenditure of labor to be available for single petty purchases. Even the calves and lambs will scarcely answer all the requirements of small change

The second drawback to the use of cattle and

sheep as money is the want of uniformity in quality which exists among them. There is great room for choice, even in a picked herd or flock. If goods are to be sold for cattle or sheep, there will always be an apprehension, which will rarely fail to be justified, on the part of the seller; that the buyer will pay in the smallest and lankest specimens to be found. This was the experience of the Massachusetts colony, so long as cattle continued to be received in payment of taxes; and desperate were the efforts of the town treasurers to defend themselves against the invasion of lean kine. The army commissary and the Indian agent of to-day might tell amazing stories—if they would—about the gaunt and puny specimens turned in at the frontier posts, under the ironical designation of four-year-old American steers.

But while cattle and sheep have been found by many tribes and peoples, in a pastoral state, and even when advanced a certain way in the agricultural condition, to be tolerably good money, in spite of the objections indicated, it is evident that the very possibility of answering this requirement fails in all highly civilized States, even though agriculture still forms one of the principal elements of their industry. The cost of keeping animals, and the risk and trouble that attend their nurture and custody, become so great as absolutely to preclude their use as money.

Of the rice money of the Coromandel shore, the cacao money of the aboriginal Mexicans, the oil money of the Ionian Islands, the salt money of the Abyssinians, the wampum money of the early New

Englanders, the tea money of the Russian fairs, the date money of the African oases, the beaver and sealskin money of many countries, it is not needful to speak. These are the curiosities of our subject.

One great class of substances have a peculiar importance in the history of money, having been used as the medium of exchange from the earliest times and among a wide circle of nations. The metals, especially seven of them, have been found to possess in a higher degree than any other equally considerable class of commodities the material properties required for this purpose.

Iron, lead, tin, and copper, one or all, early became the money of nearly every country whose history we know. The numerous uses of the first named, in the economy of life, civilized or savage, went far to give it almost universal acceptance among all classes and between different communities. The art of mining being in early times very rude, a comparatively small amount of metal represented the labor of days, and thus contained a high purchasing power. Moreover, this metal, though subject in a degree to deterioration by exposure to the atmosphere, suffers almost indefinitely less by loss, by accident, or wastage, than most forms of wealth that are not metallic.

The money of Lacedæmon was of iron; Sweden, when impoverished by the wars of Charles XII., went back to the use of iron money; and this metal still serves the inhabitants of Senegambia in the same capacity.

Lead was extensively employed in exchange by the early Romans, and the early English, and is still given and taken in Burmah, in small payments.

Tin was used by the Mexicans as money, even after silver and gold were known. It was long employed as money in Sweden, and still serves in that capacity among the Chinese, along the shores of the Malay Peninsula, and in Prince of Wales Island.

But of the four metals named copper has the greatest importance in the history of money. From its higher cost of production it superseded iron when that metal came, in the development of mining industry, to possess a value for its bulk unsuited to the uses of exchange, while yet silver was too precious for the ordinary transactions of daily life. During the silver famine of the middle ages copper came back to be the principal money of the people of Europe, and indeed almost the sole money in common circulation, silver and gold being found only in the cabinets of nobles and the caskets of bankers. The employment of copper as money, though in a constantly diminishing degree, has continued in Europe and America down to our day; but this metal has now sunk in all civilized States to the rank of token-money, or small change. Over no small part of the world, however, it is still an important element in the monetary circulation.

Between 1828 and 1845 the Emperor of Russia sought to bring platinum into use as a money metal, but, in spite of its many noble properties, the effort failed, owing chiefly to the extreme difficulty of rendering platinum from ingots into coin, and



from coin into ingots, as the exigencies of exchange might require.

Two of the metals have enjoyed a preëminence in the history of money which has earned for them the proud title : the Precious Metals.

Not that they are the most costly of all. A number of metals are more valuable even than gold, but this is true only of metals that are found in extremely limited quantity, far below the requirements of a general medium of exchange. Of the two, silver first came to be used as money. We hear of it in early Hebrew history. It was long coined by the Greeks and Romans, while gold remained merely treasure devoted to regal and sacerdotal uses. The extreme beauty of silver, brightest of all the metals, together with its numerous applications in the economy of life, make it an object of admiration and desire among peoples in all degrees of social advancement. Easily fusible, highly ductile, practically imperishable, silver would have filled our utmost conception of a money metal, had not the earth yielded one transcendent product, in comparison with which even silver fades from desire.

“The compendious value of gold,” to use Mr Jacob’s expression, allows a vast amount of purchasing power to be concentrated, for conveyance or for concealment, in little bulk. A small planchet of gold has the power to command the labor of days. Humboldt, in one of his memoirs, states that, at then existing prices, one kilogram of gold would purchase 1611 kilograms of copper, 9700 of iron, 20,794 of wheat, or 31,717 of barley.

But while gold is thus precious, it is found in sufficient quantity to allow of its convenient use as an every-day medium of exchange. Were gold as costly as vanadium, the piece in which a workman received his day's wages would require to be handled with delicate pincers like the parts of a watch, and would always be liable to be blown away, and lost by an inadvertent sneeze.

The durability of gold, combined with its fusibility, ductility, and malleability, form a group of properties of the highest importance for the purposes of coinage and circulation, while they add greatly to its uses in the industrial and decorative arts. One cubic inch of gold may be drawn out to cover 14,000,000 square inches. Gold may be alloyed and refined, united and divided with the greatest ease, and with absolutely no loss of the pure metal through all the successive processes.

Such, in their comparative fitness for the uses of coinage and circulation, are the several historical money metals. Whether another still more costly than gold remains to be added to the number, is beyond our power to foresee; but it now appears most improbable.

Of the introduction and use of the various paper substitutes for coined metal in circulation, we shall have occasion to speak at a future stage of our inquiry.

## CHAPTER II.

THE VALUE DENOMINATOR, OR COMMON DENOMINATOR IN EXCHANGE, USUALLY CALLED THE MEASURE OF VALUE.

WE have exhibited with tedious but necessary iteration the money function. It is, we saw, to serve as the Common Medium of Exchange. This is the office of money. Whatever does this is money, whatever its form or substance.

Nearly all systematic political economists, and nearly all writers in this special department, associate with this function another, as of equal importance. They say money serves both as the Medium of Exchange, and as the Measure of Value.

But, whatever it is which money does, as the so-called measure of value, it is incontestable that it does this incidentally to its work as the medium of exchange. Money can not be generally employed in the exchanges of a community without doing that which is commonly called measuring value. Hence it seems to me more logical and conducive to the better understanding of the subject to say that the money function is to serve as the Medium of Exchange ; and that whatever does this is money ; and at the same time to point out that, incidentally to its main office, money also does that which is called Measuring Value.

But what is this work which is commonly spoken of as an original function of money, co-ordinate with that first described, and of equal or even superior practical importance, but which we prefer to treat as an incidental and subordinate function?

Let us quote Mr J. S. Mill's statement :

"In order to understand the manifold functions of a circulating medium, there is no better way than to consider what are the principal inconveniences which we should experience if we had not such a medium

"The first and most obvious would be the want of a common measure of values of different sorts. If a tailor had only coats and wanted to buy bread or a horse, it would be very troublesome to ascertain how much bread he ought to obtain for a coat, or how many coats he should give for a horse. The calculation must be recommended on different data every time he bartered his coats for a different kind of article, and there could be no current price or regular quotations of value.

"As it is much easier to compare different lengths by expressing them in a common language called feet and inches, so it is much easier to compare values by means of a common language called pounds, shillings, and pence. In no other way can values be arranged one above another in a scale, in no other can a person conveniently calculate the sum of his possessions; and it is easier to ascertain and remember the relations of many things to one thing than their innumerable cross-relations with one another."

Professor Stanley Jevons thus illustrates the advantages of having a single commodity in terms of which all others may be quoted.

"In a state of barter the price-current list would be a most complicated document, for each commodity would have to be quoted in terms of every other commodity, or else complicated rule-of-three sums would be necessary. Between one hundred

articles there must exist no less than 4950 possible ratios of exchange . . . .

" All such trouble is avoided, if any one commodity be chosen, and its ratio of exchange with each other commodity be quoted. Knowing how much corn is to be bought for a pound of silver, and also how much flax for the same quantity of silver, we learn, without further trouble, how much corn exchanges for so much flax "

It will have been observed that Mr. Mill makes the measuring of values to be the prime function of money. " The first and most obvious," he says, of the inconveniences of doing without money, " would be the want of a common measure of values ; " and Professor Bowen says, " We can do without money as a medium of exchange, and can even barter commodities for other commodities without the use of any medium. But we can not do without money as a common standard or measure of value."

As to Mr. Mill's assumption that the first felt inconvenience of barter would be a common measure of value, I must say that I know not the slightest shadow of a reason for supposing that the need of a common measure of value was ever recognized, distinctly or vaguely, by any nation or tribe of men, in any condition of life. Even the conception of this function did not arise until philosophers, hundreds and thousands of years after money came into use, looking backward upon the course of the development of industry and trade, and looking around upon the phenomena of a highly organized social system, rose to the appreciation of the truth that money, first adopted to meet the painfully felt want of a medium

of exchange, became, by the very fact that it was exchanged against all commodities by turns, the means of making easy and precise comparisons between the values of those commodities themselves.

To Professor Bowen's remark that we can do without money as a medium of exchange, but can not do without it as a common standard, or measure of values, it is enough to reply that if we were to do without money in the former capacity, we should perforce have to do without it in the latter, inasmuch as it is only by being actually used as a medium of exchange that the power of money to purchase each commodity by turns becomes known, and hence comparison between commodities in respect of their power to command money becomes possible

I must therefore insist upon regarding the function commonly called measuring values as incidental and subordinate to the first function of money, that of acting as the Medium of Exchange ✓

But precisely what is this so-called measuring of values by means of money? Does not the very collocation of words in the term reveal a misconception? Value, economists are pretty much agreed, is a relation; and for the purposes of the present discussion we may so take it.

But surely a relation, a ratio, can not be measured! You do not measure the relation of a mile to a furlong; you express it, as 8 : 1. You use a common language for the two quantities. You take a common term or denominator for the two distances, and thus set them in immediate comparison with each

other. Were you, for example, to say that a mile is 63,360 inches, and a furlong one twenty-fourth of a league, the untechnical and unskilled hearer would form no idea of the relation between a mile and a furlong. Instead of this you take one quantity—the furlong—as unity, and state the other in terms of it, and the least learned and least practised hearer at once apprehends the relation.

This is precisely what is accomplished by money. Let us suppose that one pound of tobacco is worth four pounds of flour; one pound of flour worth half a pound of tacks, one pound of sugar worth two pounds of rice, while three pounds of rice are worth one pound of tobacco. Now suppose sugar and tacks are to be exchanged against each other, what will be the ratio of exchange? The problem is a very simple one, almost impossibly simple for an actual transaction. The commodities taken are few, and the numbers involved are all factors of twenty-four.

Let us see · if one pound of tobacco is worth four pounds of flour, and one pound of flour is worth half a pound of tacks, tacks are worth half tobacco, by weight. If one pound of sugar is worth two pounds of rice, and three pounds of rice worth one pound of tobacco, sugar is worth two thirds tobacco, by weight.

If, then, tacks are worth half tobacco, and sugar is worth two thirds tobacco, tacks are worth three fourths sugar, by weight—that is, four pounds tacks should buy three pounds sugar.

Should we increase the number of commodities

compared manyfold, and introduce denominators whose least common multiple should be not twenty-four but many hundreds or thousands, as might be the case were actual exchanges to be taken, the difficulty of performing the computations necessary to ascertain the terms of mutual exchange of two articles might be indefinitely increased.

But if you introduce money, and express the value of all commodities in terms of money, it becomes very easy to compare each commodity, by turns, with any other. An unquestionably great service has been rendered to production and trade, not through measuring values, but through expressing them by means of a common denominator, so that they can be readily brought into comparison.

This idea that values are measured by money has a great deal of tenacity. Thus Professor Thorold Rogers says, "We need some common measure of value as we need measures of length and capacity." But length and capacity are positive properties of things. Value is not a property of any thing. It arises wholly out of relations which exist between things. We measure the length of a thing by laying down alongside it some other thing whose length is known. We measure the capacity of a thing by filling it with something else whose quantity is known. Values are not determined by any such bringing of one thing to another. The word measure, therefore, should be applied to value, if at all, only in a consciously metaphorical sense, by a license of speech. Yet Professor Price declares that the comparative worth of every commodity "is

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measured by identically the same process as that by which the length or weight of any thing can be ascertained," and Professor Bowen, in the paragraph from which we have already quoted, goes on to say, "A measure must be homogeneous with the thing measured. As that which measures length or capacity must itself possess length or capacity, so that which measures value must have value in itself, or intrinsic value." That is to say, paper money can not perform this function of money in any degree, or under any circumstances.

If such tremendous consequences are to follow the use of the word measure, as applied to money, it behooves us to inquire very seriously and carefully whether the word ought ever to be so applied at all.

If the popular apprehension and even the expressed views of many writers in economics are correct, something like the following is the process by which terms of mutual exchange among commodities are reached: A piece of gold or silver, which cost a day's labor, is in some way brought successively into comparison with three different objects, which are thereby found to have cost, severally, let us say, five, ten, and fifteen days' labor, in consequence of which determination not only will the piece of metal exchange for one fifth, one tenth, and one fifteenth, respectively, of A, B, and C, but A will exchange for one half D, and for one third C. "The cost price of the goods," says Professor Price, "is compared with the cost price of the gold."

What is, in fact, the method by which the ratios

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of exchange between the piece of metal and equal quantities of A, B, and C are determined?

Let us bring the matter down to its pure elements by supposing that in a given community, where gold has been and still is of such universal acceptability as to become the general medium of exchange, there exist a million pennyweights of this metal, that the country itself yields no gold; that intercourse with foreign countries is, for the time, cut off so that none can be imported, and, lastly, that gold is used solely as money and not at all in the arts. Under such conditions articles will be exchanged for pennyweights of gold without the slightest reference to the cost of producing the metal. It is literally true, without the smallest qualification, that, in the words of Professor Jevons, "Labor once spent has no influence on the future value of any article." How, then, can the gold measure the value of the commodities produced within the community?

The answer is, It does so in the only way in which money ever measures values. Each producer will strive to bring to market that commodity which will command for him the greatest number of pennyweights of gold for a certain exertion and sacrifice on his part, and through the operation of this principle, and of this principle alone, the relative worth of all commodities will be determined; not through a comparison of the amount of labor required for the production of each, by turns, with the amount of labor required for the production of the gold, but through a comparison of the amounts of

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labor severally required to renew and keep up the stock of the different commodities themselves.

At first we will suppose wheat, corn, and oats exchange for equal amounts of gold, but the farmers soon find that they can raise oats more easily than corn, corn more easily than wheat; and consequently many farmers bring oats, and much of it, few farmers bring corn, and little of it; no farmers at all bring wheat. Why should they? Hence, as the existing stock of wheat begins to disappear, more and more gold is offered for wheat, until the point is reached where the farmer gets as much gold for a day's work in raising wheat as in raising oats. Corn, by the operation of the same principle, comes to command as much gold as is given for the same exertion and sacrifice which take the form of a larger quantity of oats or of a smaller quantity of wheat.

In the same way it may be that at first a cow would exchange for a cart-load of wheat, and here the correction of the terms of exchange would be made more slowly; but, sooner or later, if not in one season, then in the next, a great many farmers would make up their minds that, what with a cow now and then getting into the wheat field, or choking herself under the apple tree, or overlaying her calf, they could get more gold with the same amount of labor and annoyance and anxiety in raising wheat than in raising cows. In consequence, fewer and fewer cows would be brought to market, but more and more loads of wheat. Cows would, therefore, fetch more and more gold, loads of wheat less and less.

The same process would go on as between different occupations. If the agriculturists came to know that their products commanded less gold for a given exertion and sacrifice (all things—health, security, comfort—being taken into account) than the products of the mechanics of the community, a movement of laborers would begin, painfully and slowly, it may be, out of agriculture into mechanical industry, in order to get the benefit of the higher returns.

Now it is in this way that products are differentiated in exchange according to the cost of renewing the stock. The same thing would be effected, but more slowly and very imperfectly, without the use of money. The introduction of money enables the comparison, as to the degree of remunerativeness of different occupations, to be made quickly and exactly. This it does, not by measuring values in any sense, but by affording a value denominator, or common denominator in exchange, by means of which all commodities are placed one above another on a scale of prices.

A word has just been used which needs to be defined. What is price? How is it to be distinguished from value? Value is purchasing power. power in exchange. The word price expresses the power a thing has to purchase money. It is the money-value of commodities.

The following is the statement of M. Cherbuliez: "We call the price of a thing the quantity of money it is worth—that is to say, its value expressed in money. No article has more than one price, while it may have many different values; and

every thing has one price, except money itself." That is, there can be no money value of money.

Precisely what money has been shown as doing in the somewhat extended illustration given, money does for every community where it is employed; and this is all it does anywhere. We have seen that it is not the office of money to measure values, in any such sense as that the cost of producing any integral part of the money in circulation is compared with the cost of producing the commodities against which it is exchanged. On the contrary, we have seen that the articles themselves which are to be exchanged against money are compared as to the respective cost of renewing the stock of each. All this would equally take place, the differentiation of commodities in the market would be effected, the price-current would be created, had the gold in the first instance cost nothing at all, as, in fact, it has taken place without any reference to what the gold actually did cost.

All that has been described would equally have taken place had the money of the community consisted of paper inconvertible into coin, or even of paper not promissory of coin, mere fiat-money, as it is called, provided, only, its currency had been maintained either through general consent or by force of law, so that producers expected and desired to exchange their products and services for pieces of such money. I am speaking only of the function of money as the measure of value, so called, or, as I prefer to say, the value denominator. This function money of mere convention, of no "intrinsic

value," to use Professor Bowen's phrase, is in every way competent to perform.

Given the fact of a general desire for one article of uniform quality, which is susceptible of easy and exact division, we have all the requirements of a common denominator in exchange satisfied. The effort of every dealer to obtain as much as possible of this one article for each and every part of his stock, the wish of every producer to bring to market the product involving the least labor which will purchase a given quantity of this article—these must result in ranging all commodities, according to the cost of replacing them, upon a scale of prices the degrees of which shall be expressed in terms of this one article, money.

The point we have reached enables us to take up with advantage the question, What is the relation between the amount of money in any country and the general scale of prices existing therein? A question which, if not intrinsically the most difficult in political economy, is perhaps that one respecting which, for the want of precise definitions, the most various and contradictory opinions have been expressed by economists of reputation. As value is always determined in the relation existing between demand and supply, so price, which is money-value, must be determined in the relations between the demand for and the supply of money. So far our way is clear. But what constitutes the demand for money? What constitutes its supply?

A popular notion connects the demand for money in some way with the amount of accumulated wealth

in a country. For this opinion, however, no foundation has ever been shown worthy of consideration. A somewhat similar view makes the relation to exist between the demand for money and the annual production of wealth. But the use of money arises out of trade. In the amount and character of the trade of a country must be found the demand for money, respecting which we inquire.

"The demand for money," says Mr. Mill, "consists of all the goods offered for sale. Every seller of goods is a buyer of money, and the goods he brings with him constitute his demand."

This remark of Mr. Mill assumes that all goods offered for sale are to be exchanged for money. So far as barter exists, so that goods are exchanged against goods; so far, also, as credit in any of its forms is introduced, so that purchase and sale eventually offset each other, the demand for money is correspondingly reduced.

This diminution of demand for money through the agency of credit, whether between individuals, or at banks and clearing houses, is a fact of great importance in the modern organization of trade. This it is which enables England to accomplish the vast sum of her exchanges with an amount of money, metallic and paper combined, far below that required by less wealthy countries for a much smaller body of transactions.

What constitutes the supply of money?

"The supply of money," says Mr. Mill, "is the quantity of it which people are wanting to lay out, that is, all the money they have in their possession, except what they are hoarding,

or at least keeping by them as a reserve for future contingencies. The supply of money, in short, is all the money in circulation at the time. . . . Whatever be the quantity of money in the country, only that part of it will affect prices which goes into the markets for commodities, and is there actively exchanged against goods."

We seem to have ascertained what constitutes the demand for money and the supply of money. But each of these is, in fact, a quantity of two dimensions, and we have thus far but one dimension of each. The demand for money is made up of the goods offered for money, multiplied into the number of times these goods are sold or resold, while the supply of money consists of the quantity in circulation, multiplied into the average number of times that each piece changes hands in exchange for goods.

The nimble sixpence does the work of the slow shilling. Were we making arrangements for the transportation of a large body of grain from Albany to Boston, it is evident that the number of cars of a given capacity must sustain some necessary ratio to the bulk to be transported; but it is manifest that we could not ascertain how many cars would be required to carry so much wheat until we knew how often on the average the cars could make the trip. So we say of the supply of money; we need to know not only its volume, *i.e.*, the number of coins of a given weight and fineness of metal, the number of notes or bills, if the money be of paper, but also its rate of movement, or, as it is usually called, its rapidity of circulation.

Hence, with a given demand for money, resulting



from the volume of goods offered for sale, compounded with the average number of sales or re-sales, a given level of prices will be maintained with a smaller actual quantity of money according as population is more compact, the facilities for transportation are greater, and the telegraph, post and parcel express are better conducted. Such are the elements of the demand for money and of the money supply.

The money supply has nothing to do with placing one commodity below or above another on the scale of prices, but it determines what the general scale of prices shall be. Tea will be worth more than coffee, coffee than tobacco, tobacco than sugar, sugar than flour, whether the money supply be great or small.

Changes, indeed, of the money supply may have the effect to raise or lower the prices of some commodities more rapidly than others, with consequences to industry, trade, and society which we shall have occasion hereafter to discuss; but when time has been given for readjustment, the place of each commodity on the scale will be found to be the same in whatever terms the degrees of that scale may be expressed.

We have thus far assumed, for the purposes of our discussion, a certain definite amount of gold in circulation, say 1,000,000 dwt, with no current production of gold within the community, and with no importation from abroad. Let us now extend our view to the entire commercial world, and assume the amount of gold existing to be 100,000,000 dwt,

but still retain the exclusion of any present production of the metal. It is evident that precisely the same process of arranging all the commodities in the market upon a scale of prices, according to the comparative cost of renewing the stock of each, which has been described in the case of a single community, would go on in every country, the scale of prices in each being higher or lower according as its money supply should be greater or smaller.

And this brings us to another step in the philosophy of money. What is it that determines the money supply of each country by turns? What is the force, and what the mode of its operation, by which this sum of 100,000,000 pennyweights of gold is to be distributed among the several trading communities?

The Territorial Distribution of money is effected through the agency of Price. If the stock of money in any country becomes so large that, its rate of movement being what it is, the goods offered in the market for money can be exchanged as often as required, and yet a higher level of prices be maintained than exists in other countries, that country becomes a good country to sell to, because prices there are high, and, for the same reason, becomes a bad country to buy from. Men seek to buy in the cheapest and to sell in the dearest market. The immediate necessary consequence is that the exports of domestic products from a country having such a scale of prices are diminished, while its imports of foreign merchandise are increased.

If, then, the money of that country is such as has

equal acceptance in foreign countries, a movement for its exportation to settle the disturbed balance of exchanges at once begins. Just as the bubble in the spirit-level runs out of sight so soon as the surface on which it is placed departs in the smallest degree from the horizontal, even before the practised eye of the mason or carpenter could detect the inclination, so gold and silver commence to flow from a country where they have less purchasing power than in surrounding regions, before the most accomplished statistician or banker would be able to say that such a condition of prices had been reached

Do we mean by this that the prices of commodities must be the same in all countries, or else a money movement will take place from the country of the higher to the country of the lower prices? Only with a qualification. The cost of transportation between countries must first be taken into account as an element in the prices of commodities. Thus, if it costs \$2 (including charges for cartage, freight, insurance, interest, and commissions) to carry a barrel of flour from New York to London (New York being a great flour exporting market, as London is a great flour importing market), the price of flour at New York and at London is the same for all the purposes of the money movement, when a barrel brings \$8 in the former city and \$10 in the latter.

And why, let us repeat, does a barrel of flour in New York at a given moment bring \$8 in gold? Because there is gold enough in New York, and it is of sufficiently active circulation, to allow all the barrels of flour which are then and there offered

for money to pass for \$8 each, at the same time that hundreds of other commodities in varying amounts are also being exchanged against gold, at prices corresponding to their respective values. There is a given amount of work for gold to do in New York at that time. If there is just enough gold there, and it moves about just fast enough to do that work, and yet allow prices to remain as high (cost of transportation taken into account) as in the countries with which New York trades, then no movement of money takes place. Why should it? Gold can buy no more by going elsewhere than by staying where it is. It remains because it has no motive to go, and because movement always involves cost. But if there is so much gold in New York at the time that all the exchange transactions requiring to be made can be effected at prices higher than those which prevail elsewhere, gold immediately sets itself in motion towards its better market, where it can buy more of other commodities.

If, again, there is so little gold in New York (assuming, still, this to be the money and the only money of the city) that all the flour and all the dry goods and groceries and hardware and other commodities offered in the market for money can not be exchanged against gold except at prices lower than those in other markets, a movement in the contrary direction is initiated. New York at once becomes a good market to buy in, because prices there are low. It is for that very reason a poor market to sell in. Hence its exports increase while its imports

diminish. It has less to pay ; it has more to receive ; and since gold is, as the prices prevailing testify, the scarcest article there, relatively to the demand for it, gold goes thither, as to its best market, until the equilibrium is restored, and gold will no longer purchase more there than elsewhere.

We see, then, what is for the interest of every community in this matter of the Money Supply. It should possess just such an amount as, with existing facilities, will effect the exchanges there requiring to be made, through the employment of money, at prices corresponding to those of the countries with which it has commercial relations. It should have no more and no less, because neither excess nor deficiency can do the community any good, while either condition must be followed by a movement of money, either outward or inward, which will produce a greater or smaller disturbance of trade and production.

In case of an export of money from any country in consequence of an excess in the supply, what is to determine which part of the stock shall go ? Is it to be purely a matter of accident which coins shall "leave their country for their country's good" ? Will the coins be drawn from those nearest the place of shipment, or will some other principle of selection be adopted ?

Clearly, if the coins of the same denomination circulating in the community are of unequal weight or fineness, the best will be picked out to be sent abroad. Every banker, every merchant, every person having considerable amounts of money

passing through his hands, will be on the alert to detain the heavier pieces, while the lighter ones will be thrown back into circulation. For the latter purpose both classes of coin are of equal value; but for export the coins vary in worth according to the amount of fine gold or silver which they severally contain.

This principle is known in the literature of finance as "Gresham's Law," deriving the name from Sir Thomas Gresham, founder of the Royal Exchange of London. As it is usually stated, namely, that an inferior money will always drive out and replace better money, the theorem is false. It is only when the body of money thus composed of diverse elements is itself in excess of the wants of trade, that the better part begins to yield place and retire from circulation. Mr Ricardo very justly apprehended and clearly expounded this necessary qualification. "It is," he says, "a mistaken theory to suppose that guineas of 5 dwt. 8 gr. can not circulate with guineas of 5 dwt. or less. As they might be in such limited quantity that both one and the other might actually pass in currency for a value equal to 5 dwt. 10 gr., there would be no temptation to withdraw either from the circulation; there would be a real profit in retaining them."

When, however, the aggregate amount of the two or more sorts of money in circulation becomes excessive—that is, greater than the community's distributive share of the money of the world, the principle explained above begins at once to operate. In the same way, if a country have both metal

money and paper money, and the two jointly are in excess, it will be the metal money which will go abroad, where it will find acceptance, as the paper would not

We have already seen how difficult it is to ascertain the amount of money required to effect the exchanges of any particular country. We now see that it is not necessary that it shall be ascertained. If the money of a community is composed of that which has acceptance in the communities with which it trades, and if no interference with the natural movement of money is allowed, each country will receive its due distributive share of the world's stock—that amount which will best perform its exchanges

This clearly implies that poor and young countries will have little money, and it is not strange that their inhabitants should complain of the allotment, and make strenuous efforts to attract and retain money in defiance of the law of its distribution, failing to see that the real evil from which they suffer is paucity of production and poverty of capital, due to climate, to soil, to vices of industrial character, or merely to the newness of settlement; and that the only cure is to be found in the extension and diversification of production which will bring trade and with trade money.

We have thus far in our discussion of the relation of the Money supply to Prices assumed that there was no current production of the precious metal, gold, which, for convenience of illustration, we have taken as the sole money of all commercial countries

On the contrary, we have assumed production to have ceased after a definite amount, 100,000,000 pennyweights, had been brought into use. We have seen that under this condition the various commodities in the market are exchanged for gold at rates varying according to their own comparative cost of production, or rather the cost of renewing the stock, but without any, the slightest, reference to the original cost of producing the gold itself.

How will this be changed if we take off the inhibition upon further production, and admit the element of new gold coming into the market? Not at all. The law of prices will remain the same. But it may be asked, Will not the cost of bringing in the new gold determine the rate at which the whole stock will exchange for commodities—that is, determine prices? By no means. On the contrary, the rate at which the existing stock exchanges for commodities—in other words, current prices—will determine whether any new gold shall be produced or not.

We can test this very easily. Suppose that, besides the 100,000,000 pennyweights of gold already produced, there is known to be a vastly greater quantity in the Rocky Mountains, let us say 1,000,000,000 pennyweights. Now, whether the smallest part of this vast deposit shall be extracted—except in merely tentative operations—will depend on whether, with the supply of money at present existing, and the demand for money for all the uses of trade, a pennyweight of the overt 100,000,000 will exchange for enough beef, bread, clothes, fuel, and other necessities of life to keep a man alive and in working



condition while he is extracting a pennyweight of the covert 1,000,000,000. If not, were the treasures of the mountains multiplied twenty-fold, they will not be revealed till the rocks that hide them are melted in the final conflagration. Since, then, the existing stock of money is exchanged for commodities on terms which are alike irrespective of its own original cost of production, and of the cost of producing a new mass of metal, the present cost of production is of consequence, in respect to prices, only so far as it influences the future supply.

Let us take a case. Suppose the production of gold—still treating it as the sole money of the world—to have completely ceased, as indeed it has practically ceased more than once in the past, and that the existing stock is such, and the demand for its employment such, that a pennyweight will buy a day's labor, or products which cost a day's labor. Now suppose that new mining regions of vast extent are discovered, in which five pennyweights a day can be obtained by an ordinary laborer. How will prices be affected thereby? Immediately, not at all. It will be a capital thing for the owners of mines. The whole difference between the cost of the production of gold on their lands, say one fifth day's labor, *per dwt.*, and the power of gold to purchase labor, viz, one day, *per dwt.*, will go to them as royalty, unless, indeed, they shall be so desirous of rapidly realizing their gains as to offer very high wages to attract laborers at once in great numbers, in which case the laboring class will in some degree share the advantage. The prices of

certain articles, too, those which are most in demand among laboring populations, will rise in value, but this will only take place at the expense of articles less immediately in request. The general level will not necessarily be disturbed, except perchance as speculation might induce an increase of trading, and so enhance in some degree the demand for money.

Meanwhile, under the impulse of extraordinary profits, the production of the precious metal, which has entirely ceased at the old mines, is going forward in the new mines at an unprecedented rate; yet, even so, it requires some time to produce an appreciable effect upon the existing stock, the accumulation of hundreds and thousands of years. Little by little, however, the purchasing power of gold is diminished, not because it costs less to produce it than formerly, but because there is now more of it. Year after year, decade after decade, generation after generation, the depreciation of gold goes forward under the increasing productiveness of the mines.

The last four centuries comprise two periods of rapidly increased production of the precious metals—in one case, silver, in the other, gold—under the stimulus of extraordinary mining profits, due to the discovery of deposits where the metal could be produced at a cost far below the purchase power which it then enjoyed in the markets of the world.

The first period began in 1545, with the discovery of the silver mines of Potosí, and extended to the middle of the century following. According to Mr. Jacob, the power of silver to purchase commodities

fell to 21·3 per cent of what it had been at the beginning of the period. Indeed, Adam Smith states that, owing to the delay of the new silver in reaching England *via* Spain, the whole of this effect was wrought in that country between 1570 and 1640.

The second period began in 1848, with the discovery of gold in California, followed as that was by the Australian discoveries of 1851. But though the production of gold was for twenty years far beyond any thing previously known, it wrought nothing like so extensive an effect upon prices as was caused by the introduction of the new silver from South America in the sixteenth century, the reason being that in the latter case the highly stimulated production followed upon the Silver Famine, which had given silver a purchasing power many times greater than it had possessed under the Roman Empire, while the Californian and Australian gold came into a market hungry indeed but not starved.

To resume our illustration. Let us suppose that, at the point where the stock of gold in use has been so largely increased that two pennyweights of gold can be purchased by a day's labor, the mines are found to be utterly exhausted. We shall then have a volume of gold in circulation the several parts of which were mined at very different costs of production. Yet the whole mass will have a uniform value, determined wholly by the demand for its use in exchange transactions. No distinction will exist in the market between the gold produced at the cost of  $\frac{1}{2}$ , and that produced at the cost of  $\frac{1}{4}$  day's labor a pennyweight.

Will gold be produced at the old mines, now that the ruinous competition which for a time closed them has ceased? Not at all. Though gold can no longer be produced anywhere more cheaply, these mines will not be worked, because the stock brought into existence during the period of highly stimulated production is, and remains, so great that a pennyweight will command much less than a day's labor or the supplies needed to support a laborer a day, while a day's labor in the mines will only produce a pennyweight, as heretofore.

Such a cessation of mining industry\* as is here described followed the invasions of the Roman Empire by the barbarians in the early centuries of the Christian era. For the space of many centuries not enough of the precious metals was produced to replace a tithe of the current loss by wear and by accident. The flow of gold from the Orient ceased entirely, and for a considerable portion of the period there is no record of any production whatever of silver in Europe. Even the art of mining was lost.

\* A very silly book has been published within the past year, in which, with much vituperative abuse of eminent economists, from Aristotle to Mill, the author maintains the astonishing thesis that "as the precious metals are always in demand at the cost of their production, their value is absolute, depending upon one condition—cost. That of all other articles is relative, depending upon two conditions—demand and cost." How any thing which depends upon even one condition can be absolute, the author does not vouchsafe to tell us, nor does he undertake to show how the cessation of mining industry is compatible with his assumption that "the precious metals are always in demand at the cost of their production."

During all this period the precious metals were steadily advancing in value, at first through the reduction of the stock by wear and tear, and, at a later period, through reviving production and trade, which made a larger and larger demand for money. An ounce of silver under Charles the Great would purchase many times as much labor as under Augustus, because there was far less silver in the later period. An ounce of silver under Charles V. would purchase much more labor than under Charles the Great, not because there was so much less silver, for the Saracens had brought about a revival of mining industry in Spain, and the mines of Hungary, Silesia, and the Hartz had done something to repair the waste of the silver supply, but because there was so much more need of silver to perform exchanges.

Perhaps some one has detected a seeming inconsistency between the parts of the argument. It may be said, is not the value of gold or silver, like that of corn or cotton, determined by the operation of supply and demand? Yet have you not stated that each commodity will be arranged upon the scale of prices according to the comparative cost of renewing the stock of it, while you deny that the value of gold and silver as money has any necessary relation to the present or the prospective cost of producing them?

The objection brings to light the most characteristic difference between money and commodities. The value of every commodity conforms more or less rapidly and exactly to changes in the cost of pro-

duction, without awaiting an actual alteration of the supply, either in the way of increase or of diminution. Thus, if coal had been produced at a certain price, and new fields of ampler extent were to be discovered which would allow coal in indefinite quantity to be marketed at half that price,\* the coal in the market would at once fall one half, or something near that. The known ability to replace the stock at half the cost would be sufficient to bring down the price without awaiting an actual increase of the supply. Indeed, that increase of supply might not take place at all. If the community had previously consumed all the coal it had need of, no more coal might be produced at half price than before. The money saved in buying coal might be applied in buying more of some other article. Probably some increase of consumption would be encouraged and a corresponding increase of supply would result ; but this would not be essential to the reduction of the price. The increased production would, then, not be the cause, but the effect, of the lower price. ✓

With money, however, a change in the cost of supply is not discounted in the effect on prices. General prices are not altered, except as the result of an actual alteration of supply, either in the way of increase or of decrease. Potential alteration is not sufficient, for prices are nothing but an expression of the terms at which commodities are actually exchanged for money ; and if there are no more and no fewer commodities to be exchanged, they

\* We are writing as if competition in supplying the market existed

can not be exchanged at prices either higher or lower unless there be more or less money. Otherwise either some of the commodities offered would fail to be exchanged, which would bring down prices, or else some of the money would fail to find employment in exchange, which would send prices up.

"Alterations, therefore, in the cost of the production of the precious metals," says Mr Mill, "do not act upon the value of money, except just in proportion as they increase or diminish its quantity, which can not be said of any other commodity."

Only one point remains to be covered.

We have, thus far, to avoid an unnecessary complexity of conditions, assumed that gold, in the successive cases taken, is used as money only, and not at all as ornament or in the industrial arts. How will the action of money as the Value Denominator or Common Denominator in Exchange be affected by the use of gold otherwise than as money?

Not at all. The application of gold to such uses only influences the supply of gold as money; and we have seen that, except for great and sudden changes, the differentiation of commodities, according to the comparative cost of renewing the stock, and their arrangement upon a scale of prices, is effected equally well with a small as with a large supply.

The use of gold in the arts, decorative and industrial, has nothing to do with the purchase power of the gold used as money. On the contrary, it is the purchase power of gold, as money, which primarily determines how much gold shall be consumed in the arts.

## CHAPTER III.

### THE STANDARD OF DEFERRED PAYMENTS, USUALLY CALLED THE STANDARD OF VALUE.

WE have seen that when a man accepts money in payment for the product of his labor, he parts with that which, presumably, was capable of gratifying in a higher or lower degree his own tastes, appetites, or imperative bodily needs, and takes, instead of it, something which he does not intend or desire personally to consume or enjoy, or use in any other way than as the means or medium of securing later or elsewhere that which shall satisfy his individual wants.

This is involved in the very term Medium of Exchange. A sale of goods for money is only half a transaction; the other half takes place when the money itself is, in the phrase of certain economists, sold for goods.

This second half of the transaction may not occur till after an appreciable interval. It may be days, weeks, or even months, before the holder exchanges the money for commodities for his individual consumption. He meanwhile reserves his right to enjoy the products of others. All this time the first purchaser has been in possession of the products of another man's labor. Perhaps those products are wholly consumed long before the original producer



has derived the slightest enjoyment to himself personally from his exertions or sacrifices.

It is this view of the operation of a Medium of Exchange that M. Bastiat sets forth in the following familiar passage :

“ You have a crown-piece ; what does it mean in your hands ? It is, as it were, the witness and the proof that you have at some time done some work, which, instead of profiting by, you have allowed society, in the person of your client, to enjoy This crown-piece witnesses that you have rendered a service to society, and, moreover, it states the value of it It witnesses, besides, that you have not received back from society a real equivalent service, as was your right To put it in your power to exercise this right when and how you please, society, by the hands of your client, has given you an acknowledgment, a title, an order of the State, a token, a crown-piece, in short ”

We see, thus, that it is of the essence of a money payment that the seller parts with the product of his labor, receiving therefor at the moment that which has no power in itself to satisfy any one of his wants, but which will enable him at any time and anywhere to select those products of others which shall be most agreeable or useful to him in kind, in form, and in quantities at his pleasure.

Whether this, which thus serves him as an assurance or pledge that he shall be able practically to exercise his right of selecting objects for his own consumption, shall consist of metal or of paper—whether it shall embody in itself a definite amount of labor, or depend for its acceptance on the credit of a bank, or the decree of a government—is a matter of indifference so long as it does, in fact, give

the holder this assurance. Such is the nature of a sale for money.

We are now to contemplate those large classes of exchange transactions where the producer parts with the fruits of his labor, not only not obtaining therefor such of the products of others as are suited to satisfy his wants, but not even receiving at the time that which constitutes in all cases of money payment his assurance—or, as it were, the pledge of society—that he shall obtain such products when and where he pleases.

All exchange transactions of this class are called Sales on Credit, as distinguished from Sales for Cash. The buyer promises, with more or less of formality, with more or less of guaranty, that at some future time he will make payment in kind and amount as stipulated.

Now, inasmuch as sales on credit in the modern organization of trade far exceed in importance the sales made for cash, it is desirable that we should see clearly wherein consists the economical difference between the two classes of transactions.

The points of difference are three :

First. In the sale for cash it rests with the seller to decide for himself when he will realize his own enjoyment. He may, as we have seen, keep the money for weeks, or even months, without spending it ; but then, on the other hand, he may spend it within a few days, or even hours, at his own choice. In sales for credit, on the other hand, a period is generally set, either by positive agreement or by mutual understanding, during which the seller is to

forego the right to receive the equivalent of what he parts with.

Second The interval between one's parting with the products of his labor and his realizing his own enjoyment in consideration therefor is, in fact, very much longer in the case of credit than of cash sales; longer, doubtless, in the ratio of months to weeks,\* or even of years to months

Third, and most characteristic and vital. In the sale for cash the account between the buyer and the seller is closed, the seller accepting that which discharges the buyer from all further obligation. Thereafter his claim (in the sense in which the term is used by M Bastiat) for an equivalent in enjoyment of that he has parted with, is against society at large. In the case of a sale for credit, the seller not only does not receive an equivalent in enjoyment at the time of the transfer, but he acquires no claim upon the community; the account between him and the buyer remains open, and it is from the buyer alone that he looks ultimately to receive an equivalent.

From these characteristics of sales on credit, taken in conjunction with the vast number and extent of sales so negotiated, arises the great importance of the third function attributed to money, viz, of a Standard of Value, so called

We shall, I think, agree that the term is unfortunate. It is strange if the English language affords no more distinctive names for two different functions of money than "Measure of Value" and "Stan-

dard of Value.' Our conception of a measure involves that of a standard, and *vice versa*.

Why Measure ; why not Standard ?

Why Standard , why not Measure ?

Both terms can not be good ; but, in fact, neither term is correct. We have seen the objections to the former ; there is even more to be said against the latter. Value is a relation, and therefore can not be measured, but only expressed or stated. But value is, in the very nature of things, a phenomenon which is subject to incessant change , therefore there can be no standard for it. So palpable is this objection that some writers, who still cling to the term Measure of Value, abandon that of a Standard of Value.

What term shall we substitute for this insufficient and misleading title ?

If it be the highest merit of a scientific name to direct the attention of the hearer to the very nature and office of the subject, what could better answer this requirement in the present case than to describe the function under consideration as a Common Standard of Deferred Payments ?

We saw in Chapter II. that money acts as a Value Denominator incidentally to its performance of the function of a medium of exchange ; that it is only by and through its being exchanged, by turns, against all classes of commodities in the market, that these commodities become ranged upon a scale of prices according to the comparative cost of renewing the stock of each. The function of a Standard of Deferred Payments is not in the same way incidental

to that of a medium of exchange. In theory one article might be the means of present payment, while another article might become the means of effecting all deferred payments

As a matter of fact, the same article is almost universally used for both purposes, and so great has become the importance of the latter class of payments in modern industrial and commercial society, that that article alone becomes money for the purpose of current purchase which has been adopted as the standard of deferred payments. This has been strikingly shown in the effects of recent legislation in many of the countries of Europe respecting silver. To deprive either of the metals of the power to pay debts is greatly to impair, if not to destroy wholly and at once, its usefulness as a medium of current payments

What is it that is to be desired in a Standard of Deferred Payments?

Is it not that it should place the former seller, the creditor, precisely where he would have been had he been paid at the time the sale took place? If I have sold my farm with a stipulation that I shall receive a certain amount of money in full satisfaction at the end of five years, that would be a perfect standard for the purpose, which should ensure that at the close of the term of credit I shall be in precisely the same condition (except so far as interest on the debt requires to be taken into account) as if I had been paid when possession of the farm was first given. Any thing that fails to secure this is less than a perfect standard. If I am better or worse off by

reason of the credit given and taken, I have derived an unjust advantage, or I have suffered an undeserved loss

How much does this involve? Suppose the stipulated price of my farm to have been \$10,000. It is not enough to say, when I receive the money five years later, "Had you been paid in cash, you would have received a thousand gold eagles. Here are a thousand gold eagles of the same weight and fineness as the eagles of five years ago. You are therefore in precisely the same position as if you had been paid at that time"

Had I been paid five years ago, the thousand eagles would have contained not only a certain quantity of fine gold, but also a certain amount of purchasing power; would have brought me the just equivalent, in enjoyment, of my farm. It is not enough to allege that the eagles are now in my hand, undiminished in weight and unimpaired in fineness. The further question must be answered before the eagles can be said to have answered the requirements of a standard satisfactorily: Have the eagles the power to place me where I should have been, with respect to the purchasable wealth of society, had I been paid five years ago?

It will at once appear that this is to demand a great deal of a standard of deferred payments; more, indeed, than can reasonably be expected of any class of articles known to us. Yet it is also evident that some articles will approach far nearer to this requirement than others. We have only to think of the conditions of the production of the chief

grains or the staple materials for textile fabrics, to see how grossly any one of these would be unfitted for the ordinary performance of this function. Wheat might serve as a medium of exchange in an industrial society where credits were few, but it would be an impossible money in a State where the bulk of all exchange transactions are upon credit. Through the capriciousness of the seasons a bushel of wheat may represent one year an amount of labor greater or less by ten, thirty or fifty per cent, than in the preceding or the succeeding year. Ordinary commercial transactions simply could not be carried on at all amid the uncertainty as to the value of payments to be made or received, which would be involved in the use of any article varying so greatly in cost of production within a brief time.

In addition to the other qualifications they possess for performing the office of money, the metals probably exceed in steadiness of value from year to year any other equally extensive class of substances. This is not due to the regularity of their production. On the contrary, it is probable that the product of the mines of the world varies more from year to year than the products of the fields. It is to the durability of the metals that their exemption from extensive fluctuations in value within short periods is due.

“The corn which was brought to market last year,” says Adam Smith, “will be all, or almost all, consumed before the end of this year, but some part of the iron which was brought from the mine two or three hundreds of years ago may be still in use; and perhaps some part of the gold which

was brought from it two or three thousand years ago."

But while the metals, and especially gold and silver, are thus in a high degree fitted to serve as a standard of deferred payments, within moderate terms of years, they are yet liable to slow and gradual variations of value, which may very sensibly affect parties to all long contracts and fixed charges.

The history of the production of the precious metals is a history of often intermittent and always highly spasmodic activity. Against such wide periodic variations agriculture is in a great degree exempt

In the first place the metallic deposits lie concealed beneath the surface of the earth, often at a great depth, and there is thus room for chance to play an important part in their discovery. The merest accident may disclose the existence of vast bodies of ore which had remained unsuspected for ages. At Potosi it was, according to tradition, a hunter pulling up a bush which he had seized to steady himself, in climbing the side of the mountain, which led to the opening of that vast deposit. In the Hartz Mountains it was the pawing of a horse which brought up the first glittering particles which caused the opening of that prolific source of mineral wealth. In Saxony it is related that the signs of silver were first observed among the dirt on the wheels of a cart which had passed through the extensive forests whence large quantities of the precious metal have ever since been taken.

However much, or however little, of truth these



particular stories, all gravely related, may contain, they serve not unjustly to represent the fortuitousness of nearly all discoveries of this character. Seldom are they the results of geologic exploration or of intelligent observation. The discovery of gold in Australia, indeed, has been attributed to the recognition, by a Californian, of the likeness of the region to California; but it has also been attributed to escaped convicts who had sought refuge in places where no honest avocation would, at that time, have carried them. However that may be, it was one of the strangest freaks of fortune that made the discovery of gold in that remote region follow so closely—by an interval of only three years—upon the California discovery.

In agriculture, on the other hand, the sources of production are all open to view. Important discoveries of arable land are not among the possibilities, now that the ocean has been searched and mapped.

Secondly Mining is so difficult an art that the destruction of mining populations, or even the mere dispersion of them, constitutes an almost irreparable injury to production. Even the knowledge of mining methods and the very traditions of the industry may be lost, as during the Silver Famine of the middle ages.

The processes of agriculture, on the other hand, are so much more simple, and the numbers cultivating the soil so much more considerable, that a permanent cessation of production, through disturbances of population, due to civil war or invasion, is far less likely to take place.

Thirdly. The destruction of mining apparatus and machinery through war or domestic convulsion causes a far more serious and lasting injury to production than agriculture suffers from like causes. A single hour of riot at the mouth of a mine may work a mischief which will not be repaired for years—perhaps a mischief which is irreparable, but the fields which have witnessed the carnage of a Waterloo or a Gettysburg may bloom the next year with their richest harvest.

Fourthly. The waste of resources and the loss of productive capability which may be wrought by the passion for sudden wealth and by niggardliness in expenditure, great as they notoriously are in agriculture, are not to be compared with the effects of the like causes upon the production of the precious metals.

The exhaustion of the soil by injudicious and parsimonious working is indeed shown in the sterility of many of what were once the fairest regions of earth; but that sterility is not so hopeless, nor does the penalty of mismanagement and abuse of nature follow so quickly, as in the department of mining industry.

There is no pursuit in which so wide a difference is made in the large, the ultimate result, according as men work under the passionate impulse of the desire of immediate gain, or are directed by an intelligent sense of self-interest, extending far beyond the present into the future; and nowhere does greed, always and everywhere the enemy of true self-interest, obtain such complete mastery over the senses

and passions of men, as when gold and silver are in sight. Never do men so disregard the considerations of simple prudence, never so wantonly sacrifice the future to the present.

In part, this is due to the fact that the work of mining is generally carried on far from the seats of population, under conditions difficult and often dangerous, and hence by men more than usually reckless and under the domination of immediate appetite. In part, also, it is due to the mysterious attraction which these metals exert upon the faculties and sensibilities of men.

Lastly and chiefly, the very nature of metal deposits, the work of agencies long extinct, and the utterly unaccountable way in which such deposits occur, especially in the case of gold and silver, render it inevitable that periods of highly stimulated production should be followed by periods of comparative inactivity or complete lethargy, to the serious prejudice of money, in its function as the Standard of Deferred Payments.

Here, then, is the weak point of Metallic Money. In all cases of contracts extending over long terms, and of fixed charges upon land or productive industry, great injustice as between man and man, and lasting injury to production, are not unlikely to be wrought by the periodic fluctuations of the money supply. Not to speak of the enhancement many-fold of the value of money through the Silver Famine of the middle ages, or of the sudden and extensive decline which has been referred to as taking place between 1570 and 1640, it is estimated by Professor

Jevons that the value of gold fell forty-six per cent between 1789 and 1809, that from 1809 to 1849 it rose one hundred and forty-five per cent, while between 1849 and 1874 it fell again at least twenty per cent. Even if we allow much from the insufficiency and inaccuracy of the data used in such comparisons, there will remain an unquestionable variation of wide reach within each of the periods indicated. Not all of this could have been due to influences affecting the demand for gold, the occasions for its use

While, therefore, the precious metals have a great advantage over the cereals as a standard for determining the claims of creditors, the obligations of debtors, in all cases of contracts running but a few years, there is no reason to believe that they furnish a better standard for the adjustment of long-term contracts. Indeed quite the reverse is probably true. Through considerable periods breadstuffs maintain their cost of production much more steadily than do the metals. No substance or class of substances can perform this function perfectly. Always there will be the possibility, the probability, the utmost certainty, that one of the two parties to all deferred payments will suffer from changes in the medium adopted, will pay more or less, will receive less or more, by reason of the imperfections of the standard. But the vast breadth of arable land of reasonably uniform quality; the simplicity of the processes of agriculture and the wide diffusion of the art of tillage; the comparative immunity of the soil amid ravages which greatly impair, perhaps permanently

cripple, manufacturing, and, in an even greater degree, mining industry, the limited applicability of the principle of the division of labor to agriculture, and the relative inefficiency of machinery in its operations—these causes combine to render bread-corn, in truth, what Francis Horner pronounced it to be, “the real and paramount standard of all values.” John Locke, in his paper on the Value of Money, advanced the same idea “Wheat, in this part of the world, and that grain which is the constant general food of any other country, is the fittest measure to judge of the altered value of things in any long tract of time”

Yet, in spite of the considerations which seem to favor the adoption of breadstuffs as the standard, in the case of long-term contracts, this is but seldom done, nor does any tendency appear to an increased resort to this mode of measuring indebtedness. The manifest convenience of having that for the standard of deferred payments which is also the medium of current exchanges, the indolence and want of initiative which lead to the acceptance of what is nearest at hand and most familiar, a superstitious veneration for the precious metals together with great ignorance as to the conditions and history of their production, have combined to withstand the important reasons which favor the adoption of corn rents, corn interest, and corn annuities, in the case of long leases, long loans, and fixed charges upon land.

But, it is said, something even better might be brought into use. Various schemes have been proposed, some by writers of the greatest respectability,

for obviating, if not all, by far the greater part, of the inconveniences and the injustice which result from the variations of any single substance or single class of substances, when taken as the standard for deferred payments. For some of these schemes it has been claimed, and not without reason, that they would measure the claims of the creditor, the obligations of the debtor, over as long a period of time as the legislator feels called to make provision for, with a degree of accuracy which would practically leave nothing to be desired.

The schemes particularly referred to are those of Messrs. Lowe and Scrope in England, and of Count Soden and Professor Roscher in Germany, which all propose, under differing forms and conditions, a Tabular Standard, or Multiple Tender, in which the value-variations of a considerable number of articles of general consumption and of prime importance in the economy of daily life—corn, beef, potatoes, wool, cotton, tea, coffee, sugar, timber, iron, coal, etc.—shall be trusted to compensate each other, with the result of a high degree of stability in the whole body so composed. The articles selected should be taken in definite quantities, and all of standard quality. An arbitrary name might be given to a Unit of this measure, which would embrace a certain number of pounds, bushels, or yards of each one of the articles on the list. Any person selling a house or a farm might then fix the price at so many of these Units, corresponding to the present value of a bill of goods of such commodities, in such quantities.

The seller would thus be assured of being placed at the end of the term of credit in substantially the same position as if he had been paid at the time of the purchase. If one, three, or five of the articles taken should be found to have risen in value in the interval, others, doubtless as many, would be found to have fallen, and in the aggregate to an equal extent. Exceptional causes, over so large a field of operations, would practically offset each other, with a result of complete justice, as between the two parties to the contract

But as it might be inconvenient to the non-commercial creditor to receive, ten years hence, a number of cart-loads of goods of one or two score of kinds, representing the animal, the vegetable, and the mineral kingdom, and to be obliged to dispose of these for himself, it should be stipulated that the debt should be paid in current money—gold, silver, or paper—in such amount as would at then current prices purchase the bill of goods which had been taken as the measure of the claim of the creditor, of the obligation of the debtor.

Of course, for the satisfactory carrying out of such a scheme, the sanction of government would be required. Commissioners would have to be appointed who should be empowered to make periodical publication, quarterly or monthly, of the prices of the several articles taken for this purpose, according to the rates prevailing in the principal or representative markets of the country. Such publication would embrace a computation of the value in money of the Unit of the multiple-tender—that is, the com-

missioners would announce that so many pounds, bushels, or yards of the commodities on the list were worth at date so many ounces of silver or gold, or so many dollars of paper money. All payments falling due within the quarter, or the month succeeding, would be made in money, according to the terms of the announcement.

To illustrate the operation of this scheme, let us suppose that in 1869 I sold my house or farm on a credit of ten years. The price of the property, as reached in the negotiation between the buyer and myself, was \$6000. But instead of his giving me his note for \$6000, we looked together at the official published list of prices for the multiple-tender, and found that the value of the Unit, embracing so much of each of so many articles, was at the time \$12. The note was thereupon given for 500 units of the multiple tender.

On the note coming due the present year, my debtor and myself would refer to the last list published, dated just ten years after the one which formed the basis of the contract; and we should probably find that the value of the unit, in current money, was now higher or lower, say \$11 or \$13. That is, the same amount of the same articles could be purchased for one or the other of these sums, which could have been purchased for \$12 when the note was given.

The announcement is official, conclusive. No controversy is possible between us. The computations required are no more elaborate than those involved in casting up the semi-annual interest. I re-



ceive \$5500 or \$6500 in money, according as its value now is, and the transaction is closed. The effect of the introduction of the tabular standard has been to put me precisely where I should have been had I received payment at the time of purchase. I get no more, no less, by changes in the value of any article. I am no worse off by reason of having given credit. On the other hand, the purchaser has had all the legitimate advantage of receiving credit without deriving any unjust advantage thereby, or being subjected to any penalty therefor, beyond the payment of the stipulated interest. He has no chance to get the house or the farm at last by paying me what is worth only half, or two thirds, what it was worth ten years ago, and he is likewise relieved from all danger of being required to pay me a third or a half more than he had reason to expect, through a change in the purchasing power of money which he could neither control nor foresee.

Such is the scheme of a Tabular Standard, or Multiple Tender, which has been brought afresh to public notice by Professor Stanley Jevons in his excellent work, "Money and the Mechanism of Exchange." It is evident that the thing is perfectly practicable. If it is worth while to do it, there can not be even a question as to its success. The cost of the necessary machinery would not be great. Three commissioners and half a dozen clerks for the whole United States could do all that would be required in the ascertainment and publication of the prices of the articles taken as the standard. Parties making contracts could express the obligation in

terms of the Multiple Tender, or draw their notes for money, as now. The computations required would be so slight as to be absolutely inappreciable. It will be seen that no change of monetary legislation is necessary ; that no new legal tender would be established. Government would simply provide the standard, and leave it to the pleasure of contracting parties to use it or not. No new judicial machinery is required. The courts would enforce contracts on the same principles of law or equity as at present.

So far as I am able to judge, the scheme has not a single weak point. It is merely a question whether it is worth while to take any trouble whatever to accomplish the object proposed. The expense of the system to the nation would not be worth a moment's thought, if indeed the end in view were desirable. Let us then inquire more specifically what classes would be especially benefited by such a system of ascertaining the claims of creditors and the obligations of debtors ; and at what point in the commercial and industrial economy the advantages of the use of such a Multiple Tender would be neutralized by the obstruction it would occasion.

Professor Jevons seems to think that the Tabular Standard might be applicable, in the course of ordinary commercial transactions, to the payment of debts of more than three months' standing. In this, however, I can not concur. In the first place, the advantages anticipated for the scheme are reduced to a minimum when it is applied to short credits. The precious metals have a high degree of steady-

ness in value from season to season, and from year to year, far exceeding in this respect any other considerable class of substances. It is true that such a tabular standard would be even less subject to variation than the precious metals, but I apprehend the gain would not be sufficient to induce any merchant or manufacturer to open a set of books upon this plan.

While the inducement to undertake the proposed mode of ascertaining the due weight of obligations is thus greatly reduced in its application to credits for short terms, the objections to its use are greatly increased. It is essential to the conduct of business that the merchant or manufacturer shall be able at any time to tell just where he stands, to strike a balance of assets and liabilities. But this would be, in the case assumed, impossible. A part of his liabilities and of his assets would be expressed in terms of money. Another part would be in units of the Multiple Tender. The value of a unit of this, at the maturity of any note to be paid or to be collected, could, by the very description of the system, never be known in advance. A note given for 400 units, payable in September, might not balance, probably would not exactly balance, a note for 400 units, receivable in August or October. It would thus be impossible for the merchant or manufacturer at any time to cast up rapidly and decisively the results of a venture, or ascertain his own exact standing. Every note given or taken in the course of business under this system would have to be liquidated. Its present value in money would never be known.

Commerce will not tolerate any such obstructions, and the scheme, so far as this application is concerned, may be dismissed at once. Commerce will do the best it can with the use of money, and of credit expressed in terms of money. Nothing is more characteristic of the commercial spirit than the disposition to take the evil with the good, roughly to strike the average of gain and loss, promptly to charge off bad debts, always looking on towards the future, never regretting the past. This spirit leads, doubtless, into many errors, but it is the very life of commerce.

For what classes of contracts, then, might the Multiple Tender be advantageously employed?

Certainly the need of such a standard of deferred payments is most imperative in the case of those who are not in the way of repairing any losses they may suffer through fluctuations in the value of money, upon whom the full effects of depreciation fall directly and remain without relief. And while the advantages of such safeguards upon the value of debts here rise to their maximum, the obstruction sinks here to a minimum. In permanent investments of property not the least inconvenience would be encountered by the scheme of a Multiple Tender, which might be extended to the cases of all who have definitively retired from active life, carrying away with them all they will ever have to support old age and provide for their children, to the cases of trustees and guardians, under a solemn responsibility in the care of estates, where loss is more to be dreaded than gain to be desired, to the cases of in-

stitutions whose funds are sequestered from the stock of active capital for pious and charitable uses. The funds of savings banks might be put under the same safeguard, and Government loans might also be issued in terms of the multiple tender.

## CHAPTER IV.

### METALLIC INFLATION ; OR, THE EFFECTS OF AN INCREASE OF METALLIC MONEY.

WE have seen the causes which operate to give the production of the precious metals a highly spasmodic and intermittent character, and thus impair their usefulness as the standard of deferred payments.

It is now our duty to inquire what are the effects upon trade, industry, and society, of a failure more or less extensive in this function of money, whether that failure proceed from excess or from deficiency of metallic supply.

And first, of an excess in the supply of the precious metals. What is Metallic Inflation? Metallic inflation is not synonymous with an increase in the volume of the precious metals. It occurs only when the increase in supply outruns demand, and thus a fall takes place in the value of money, by which the creditor in all deferred payments is made to accept, in satisfaction for the services or the products with which he has parted, less purchasing power than he would have received had payment been made at the time of delivery.

Let us first take the case of a gradual increase of the money-supply, steadily exceeding, but at no

rapid rate, the increase in the demand for money for all the uses of exchange.

While many economists insist upon regarding all variation of the standard taken for deferred payments as a subject of regret, not a few writers of high reputation have strenuously maintained that a slowly progressive depreciation of money is a result eminently to be desired. They admit that the effect must be to subject one party to every contract to an undeserved loss, and to confer upon the other party an undeserved advantage, but they contend that this is well for society, if it be the result of purely natural causes so that the sense of injustice, as between man and man, is not awakened, and no retributive agencies are set at work. They confess that not only individuals but classes are injured, but they claim that the community is greatly benefited by the steady reduction of the purchasing power of money.

Mr. J. R. McCulloch declares that, "while, like a fall of rain after a long course of dry weather, it may be prejudicial to certain classes, it is beneficial to an incomparably greater number, including all who are actively engaged in industrial pursuits, and is, speaking generally, of great public or national advantage."

M Chevalier says: "Such a change will benefit those who live by current labor; it will injure those who live upon the fruits of past labor, whether their fathers' or their own. In this it will work in the same direction with most of the developments which are brought about by that great law of civilization to which we give the noble name of progress."

And David Hume has written : “ In every kingdom into which money begins to flow in greater abundance than formerly, everything takes on a new face , labor and industry gain life , the merchant becomes more enterprising, the manufacturer more diligent and skilful ; and even the farmer follows his plough with greater alacrity and attention.”

Claims like these, so large and bold, from writers of such eminence, deserve careful analysis. Let us therefore inquire whence any advantage to society as a whole can accrue through an increase of the money supply in excess of the demand.

In the first place, it is a popular notion that an increase of the precious metals in circulation lowers the rate of interest. If the purchasing power of money be reduced, it is said, the power of money to command a remuneration for its temporary use must be likewise reduced.

What is interest ? It is the compensation paid for the use, not of money, but of capital. Money is only one of many forms of capital ; and in loans is usually only the agent of effecting a transfer of other forms of capital than itself. If I borrow money, the chances are that I at once, or shortly afterwards, purchase with it articles suitable for my business or my personal necessities. These were what I wanted. These were what I really borrowed. These are what, in any philosophical view of the subject, I pay interest on ; not upon the money. The money was but the means to this end.

But money is not always, nor in the modern commercial organization is it usually, even so much as



the agent in the transfer of capital from the lender to the borrower.

The country merchant goes to the city and makes his purchases for the season. He buys \$500 worth of dry goods, \$1000 worth of groceries, \$200 worth of hardware, and at each store gives his note for the amount of the purchase for sixty days, or three months, "with interest." What is the interest to be paid upon? Money? He has had no money. He has had nothing but goods—capital. The young Western farmer buys stock, and gives his note for \$3000, payable in five years, secured upon his farm with interest meanwhile semi-annually at four per cent. For what is the eight per cent interest compensation? For the use of money? No money has been used in the transaction. The interest is paid for the use of capital. The rate of interest paid is determined by the relation of the demand to the supply of capital, the demand for capital being determined by its capability in that region to assist labor in the production of wealth, the supply consisting of the wealth produced in the community in excess of what has been consumed, together with so much as the high rate of interest prevailing has induced Eastern owners to transfer to that locality for profitable employment.

Hence we see the futility of the notion that the rate of interest can be permanently lowered by merely augmenting the supply of money. That rate depends upon the supply of capital in all its forms suited to productive uses, compared with the opportunities existing to use capital productively.

The West clamors for "more money." What it wants is more capital. The mistake is an old one. Interest was high in New England two centuries ago from precisely the same cause which now makes it high at the West. The people of New England then suffered from the same misconception, and cried out for more money. They had brought out from their old homes very little of wealth, even in its most useful forms, and there was great occasion to use wealth in making themselves comfortable in a new land, and in developing the resources of the country. They had houses and shops and churches and schools to build all at once; roads and bridges to make; land to clear, fence, and drain—all requiring the use of live stock, tools, clothes, and provisions. But provisions, clothes, tools, and live stock were scarce. Consequently the use of them cost much, *i.e.*, interest was high.

Had the people been less enterprising and ambitious, there would have been capital enough for all their uses. Philip and Massasoit never complained of a high rate of interest.

Had the natural advantages of the country been less abundant, there would have been capital enough to supply all the tools and materials which labor could profitably have employed, and interest again would have been low. And as in the course of time these communities grew older, and accumulated from year to year and generation to generation larger stores of materials and tools; as they got their bridges and roads and churches and dwellings constructed once for all, capital became abundant in

comparison with the opportunities for its productive employment, and interest fell point by point, to correspond with the altered conditions.

Secondly. It has been frequently alleged that a metallic inflation diminishes the burden of taxation. This seems to have been a favorite notion of the historian Alison.

It is difficult to see how the cause adduced can have any considerable effect in this direction, so far as taxation for the ordinary occasions of government is concerned, which is what Sir Archibald Alison appears to have had in view. Taxes are the means of furnishing the revenue needed to meet expenditures on account of a great variety of services and commodities. It is true that the price of services required by the State—that is, the wages or salaries of officials and laborers—may advance less rapidly than the purchasing power of money declines; and thus, in the language of Mr. Huskisson, “a saving accrue to the State from paying the wages of labor, talent, industry and labor, in a depreciated currency,” but, on the other hand, the prices of those commodities which the State especially requires will be likely to make more than a proportional advance. If, then, the volume of money is increased, and its purchasing power diminished, the expenditures of government may be expected to increase at least correspondingly. But while the claim that metallic inflation reduces the pressure of taxation thus seems to have little or no foundation, so far as the current expenditures of government are involved, yet so far as taxation results from the

necessity of paying the interest or principal of public debts, it will of course be reduced in consequence of a metallic inflation.

Thirdly. We now come to a claim which has been put forward in favor of metallic inflation with not a little of economical authority. The case was stated very strikingly by Mr. Hume in the essay from which I have already quoted. If we trace the new money in its progress through the whole commonwealth, "we shall," said that profound thinker and subtle analyst, "find that it must first quicken the diligence of every individual before it increases the price of labor. . . ."

"Though the high price of commodities be a necessary consequence of the increase of gold and silver, yet it follows not immediately upon that increase, but some time is required before the money circulates through the whole State and makes its effect to be felt on all ranks of people. At first no alteration is perceived, by degrees the price rises, first of one commodity and then another, till the whole at last reaches a just proportion with the new quantity of specie which is in the kingdom. In my opinion it is only in this interval or intermediate situation between the acquisition of money and rise of prices that the increasing quantity of gold and silver is favorable to industry. When any quantity of money is imported into a nation, it is not at first dispersed into many hands, but is confined to the coffers of a few persons, who immediately seek to employ it to advantage."

The cause which we are considering does indeed

operate in the very way indicated by the philosophical historian quoted ; and it is a remarkable proof of Hume's penetrating insight that at so early a date in the history of economic investigation he should have so justly apprehended the influence of an increased volume of money upon trade and production. Its first effect is to stimulate enterprise. The persons into whose hands the new supplies come seek to employ them to advantage, either in extensions of existing branches of industry or in opening new fields of production " There is at all times," says Mr. Newmarch, " a profusion of enterprises to be undertaken, of experiments to be tried, of schemes to be worked out, of improvements to be made, of ingenious men to be set up with capital, of trades already profitable to be made more so by vast extensions."

For such the new supplies of money are the means of obtaining the requisite capital much more readily and conveniently than it could otherwise be drawn from existing sources. They constitute a disposable fund always ready for whatever promises best.

And the new supplies not only furnish the means for new enterprises and extensions of traditional avocations, but they give also the courage and spirit of adventure which, in moderation and subject to the rules of prudence and the teachings of experience, form a very important element in the industrial life of a people. Production and trade tend, as John Locke has remarked, to wear for themselves channels, from which only a great overflow will divert them. The capitalist and the employer become

possessed in a wonderful degree of all the secrets of the familiar avocation, they acquire the greatest facility in its processes; they discover new means of making labor and capital more effective in doing the old work; they detect every leak and source of waste. But all the while they are becoming rather less than more alert and open-eyed towards what is without their daily walk, and there is always the possibility, or even the probability, that, while every industrial agent is thus bent on perfecting that portion of the industrial system with which he is personally connected, opportunities for remunerative enterprises offered by changes in the direction of the popular consumption, by altered conditions of production, or by the discovery of new resources in nature, may be overlooked and neglected. A crust of custom tends to form over industry, as over every thing else in human life, which prevents or restricts free, natural expansion. Nothing at times is more stupid and stolid than capital. It needs to be waked up, incited, stimulated to alertness, activity, and some degree of aggressiveness. Wealth does not fall into the laps of men. Risks have to be taken, unknown fields to be explored, costly experiments to be tried, obstacles to be resolutely assailed for the sake of the good that is seen or suspected to be behind.

It is clear that an increase of the money supply may afford just the incentive to enterprise and even to speculation, in the best sense of that term, *i.e.*, the anticipation of the future, which may be sufficient to break through the crust of custom, to cause men to

undertake these costly experiments, to encounter these initial risks, and search out new channels for productive energy. And still bearing in mind our assumption that the new supplies are received evenly and not too rapidly, such, in greater or less degree, according to the temperament and the industrial genius of each people concerned, will almost certainly be the effect produced.

But the influence of a progressive increase of the volume of money does not stop here. As it passes into circulation it raises prices, but not equally and at once in all directions. Some time is required before it circulates through the whole State and makes its effect to be felt on all ranks of people. "At first no alteration is perceived; by degrees the price rises, first of one commodity and then another, till the whole at last reaches a just proportion with the new quantity of specie which is in the kingdom"

This view seems both rational and thoroughly practical. The Ricardian political economist declares that he sees no advantage in an increase of the money supply above its former level. If the amount is increased, its purchasing power is lowered correspondingly, prices rise in exact proportion, and every thing is as it was before, except that more labor has been expended in mining, and the medium of exchange, by becoming cheaper, has become more cumbrous.

But this rise of prices does not occur instantaneously. It proceeds not only from one class of commodities to another, as Hume observed, but also, as Professor Cairnes has shown in his Essays on

the Gold Question, from country to country, with appreciable intervals, which permit of important economical efforts being produced meanwhile. Those effects are various, but that with which we are here particularly concerned is the influence upon profits.

In the modern organization of industry the profits of the man of business furnish the sole motive to production. Production is not carried on because the laborer wishes it. The laborer has nothing to say about it. If he is employed, he works and earns wages, if employment fails him, he is impotent to make a place for himself; he holds on painfully, awaiting better times, and eating up his little substance, selling the clothes and the furniture out of his house a piece at a time. It would be difficult to imagine the laborer more passive and helpless, more dependent upon the action of others, than he is in the existing organization of industry. In the long and painful prostration from which the country is just now, as we hope, recovering, what have the laborers done, what could they have done, to secure employment for themselves?

Quite as little has the possessor of capital to say as to whether production shall proceed or not. Men are not employers simply because they are capitalists, or to the extent only to which they are capitalists. In a primitive condition, indeed, when the forms of production are few and simple, when the products are plain necessities of life, or articles in universal request; when the materials of manufacture are obtained near at hand, and the producer



and consumer are either the same person or are found in close proximity—under conditions like these the possession of capital is the one sufficient qualification for the employment of labor ; and, on the other hand, a stock of food and a store of tools and materials are all that labor requires to enable it to institute production.

But when, in the progress of society, the forms of production become numerous and complicated, when many persons of every degree of skill or strength are to be united in labor, when many of the materials of manufacture have to be brought from distant countries, and the products are, in turn, to be distributed by the agencies of trade over wide regions, the consumers constituting a vast and vague body, unknown to the producer and subject to incessant change, under conditions like these, a reason exists for an employer, a man of business, a captain of industry, which is wholly in addition to that which appears in an earlier state.

The mere possession of capital no longer constitutes the single qualification for the employment and direction of labor. The modern man of business must furnish, besides this, technical skill, commercial knowledge, and administrative capacity, he must assume large and trying responsibilities, and be incessantly on the watch against contingencies of loss and disaster.

He who can do these things will find capital for his purposes, or rather capital will find him, for it will seek him with painful eagerness, since it can do no more for itself, under the conditions described.

than can labor. The capitalist who, without these higher qualifications, undertakes to conduct industrial operations, will do so at the risk, the almost certainty, of partial or total loss. I asked, what have the laborers of this country done during the five weary years of industrial prostration to secure their own employment? and we saw that they have done nothing, because there was literally nothing which they could do but await the returning power and disposition of the employing class to renew their activity.

Now I ask, what have the capitalists of this country done, as capitalists, in the same period, to initiate production? What could they have done? The answer is the same, absolutely nothing beyond awaiting, with such patience as they could command, the revival of productive enterprise on the part of the employing class. Have the capitalists, finding their money left on their hands, or loanable only at very low rates of interest, gone into business for themselves, in order that it should be more profitably employed? As little as the laborers have resorted to co-operation in order to secure themselves an opportunity to labor. All through this weary period the attitude of both laborers and capitalists has given the strongest testimony that the employing class are completely the masters of the industrial situation. To them capital and labor are obliged alike to resort for the opportunity to perform their several functions; and whenever this class, in their view of their own interests, refuse that

opportunity, capital and labor remain unemployed, incapable of the slightest initiative in production.

Hence it is, we say, what can not be too strongly impressed upon the student of political economy, that the profits of the man of business constitute the sole motive to the production of wealth.

It does not follow from this that profits can not be too high for the interests of all classes. Excessive profits may induce indifference to humdrum economies, may excite to extravagance in personal expenditure and recklessness in planning and conducting industrial and commercial ventures. But it clearly does follow from the fact that the sole initiative in industry resides in the employing class, that it is exceedingly important that profits should be kept up to the point to encourage the largest production which can be maintained without repletion.

The influence of a gradual metallic inflation upon profits is very direct and simple. The manufacturer, let us say, makes his bargains for material and labor, for the production of a certain quantity of goods. The prices which he pays, or agrees to pay, are conditioned upon the amount of the circulating medium. Three months later, when the goods are ready to be put upon the market, prices are higher, by reason of the increased supply of money. Of this rise the manufacturer gets the advantage.

But it may be said, how is he any the better off when he has turned his goods into money at the higher prices, since the money which he receives, though greater in nominal amount, has no greater purchasing power, and he will not be able to replace

his stock of material and hire the same quantity of labor, except by paying the whole of the money he gets by the sale. To this objection it is a sufficient answer to say that the wages of labor seldom or never rise so fast as the price of commodities, and that the prices of raw materials seldom or never rise as the result of an increase of the money supply, except after and through the rise in the prices of the goods into whose production they enter. In this interval or intermediate situation, to repeat the phrase of Hume, the increasing quantity of money produces the effect which has been described.

If this analysis be correct, the natural operation of a metallic inflation benefits those who are carrying stocks of commodities, and are engaged in the production of goods from materials and labor purchased, or contracted for, at existing prices. This slight progressive rise in prices does not constitute the manufacturer's profit, but a premium in addition to the ordinary profit.

It is, of course, pertinent to say that this premium must be paid by some person, or class of persons, and that what the manufacturer gains some one else loses. What I have sought, through this long discussion of the office of the man of business in modern industrial society, to prepare the way for, is the proposition that the community can afford to pay this premium in addition to the ordinary average rate of profits, this prize, for the sake of securing the greatest activity and alertness of the employing class. It is easily conceivable that this premium might, through a rapid and violent increase

of the money supply, be carried to such a point as seriously to weaken the general body of consumers, and to harm rather than benefit the commercial and industrial classes by exciting a spirit of furious speculation, by making them discontented with slow gains, and inducing habits of personal extravagance in expenditure ; but in moderation I can not doubt that it gives a fillip to the zeal of the employing class, and in the immediate present promotes production without necessarily inducing any reaction whatsoever

But, fourthly, the chief advantage which it is claimed results from a metallic inflation comes through the reduction in the pressure of indebtedness and of fixed charges of all kinds, rents, pensions, annuities, payable in money. This is a matter of the most serious importance, and requires to be treated with carefulness and candor.

The body of indebtedness existing at any moment in any progressive community is very large, and tends continually to increase. The more difficult the conditions of production, the more pronounced becomes the necessity for the employing class, the men of business, and the greater, by consequence, the sum of capital which is used by those who do not own it

In an early condition of society the idea of debt is very largely associated with personal extravagance or personal misfortune. The debtor is generally a spendthrift, or else a broken person, the object of blame or of compassion.

In a condition of society like the present the idea

of debt is wholly free from such associations of misfortune or extravagance. More and more production tends to be carried on by means of borrowed capital. The employing class becomes a comparatively small and highly select body of men, who control the destinies of capital quite as arbitrarily as they do the destinies of labor. That class becomes select, not by the choice of any constituency, whether of laborers or of capitalists, not by any rigid requirements upon entrance, whether of examinations into competency, or of initiation fees. All are in theory free to enter ; but the number of those who venture is restricted by the known severity of the conditions of business, while those who undertake the risks and responsibilities of production are continually sifted by pressures and panics.

From these conditions it results that but a small proportion of the capitalist class are personally engaged in business, while the employing class acquire the control for productive purposes of a vast body of wealth which they do not own.

The owners of capital who are not also employers of labor are, first, those who by age, sex, or infirmity, are disabled for active occupations ; men retired from business, women of all ages, children and young persons of both sexes, the crippled and incompetent, for whom provision has been made by others. In the order of nature these classes of persons own a large part of the wealth of the world.

Secondly. Those who from dignity and love of leisure, as is especially apt to be the case with men who have inherited wealth, are indisposed to in-

crease their store by active exertions, particularly where more or less of risk is involved, and choose to live upon the revenue derived from the investment of their means.

Thirdly. Those who, like lawyers, physicians, clergymen, engineers, and government officials, are engaged in occupations and professions which afford no opportunity for the employment of surplus earnings.

Fourthly. The laboring classes themselves, so far as they make savings out of their scanty earnings, since they are, from the very nature of their industrial position, unable to apply these personally to production.

Such are the principal constituents of the capitalist class, who are creditors under the modern industrial and commercial system. The debtors are, in the main, the conductors of business, the employers of labor. Out of the product of their several trades and enterprises they are bound to pay interest upon the sums loaned to them, and, in due time, to repay the principal. Those obligations are generally payable in money; and the claim for the virtue of a metallic inflation, which we are now considering, asserts that it is for the benefit of the community, as a whole, that the weight of those obligations should be progressively diminished. But why, asks Mr. Maclaren, in his *History of the Currency*, "Why should the power to make a fortune be cherished at the expense of a fortune when made?" Why should it be considered a matter of congratulation that the creditor should, by a change in the value of money,

receive less than he parted with? Why should we wish the standard to be something less than a perfect standard?

It is the fact that the actively producing class in modern industrial society are also the debtor class, which, in the view of those writers who find a metallic inflation to be beneficial, constitutes the justification for rejoicing at a progressive depreciation of money. It was just this which M. Chevalier had in mind when he declared that such a change works "in the same direction with most of the developments which are brought about by that great law of civilization to which we give the noble name of progress." Contemplating the creditor class as the representatives of the industry of the past, and the debtor class as representing the industrial interests of the present and the future, M. Chevalier deems it fortunate that the claims of the past upon the fruits of the present and the future should be diminished, not violently or rapidly, but through a slow and gradual movement, not by confiscation and repudiation, the work of man, carrying with it the sting of injustice, and bringing retribution after it, but by a purely natural process, in the discovery of new stores of the precious metals, or through improvements in the chemical and mechanical arts of mining. It is thus, he holds, the past should minister and be subordinated to the future. It is the way of nature; it is the path of progress. It is not desirable that the change should be made so rapidly as to impoverish the dependent and helpless of a single generation who have been left with provision believed to



be adequate to their wants. It is desirable that it should go forward fast enough to bring the necessity of active exertion upon the young of the next generation, as they find their inherited wealth gradually growing insufficient to maintain the state of their fathers.

It seems to me that there is much truth in this view. The greatest good of the greatest number clearly requires that production should go on with a strong and steady movement. The slow, gradual depreciation of money, bringing about a reduction in the weight of the burdens which rest upon active production, in the nature of interest, rents, annuities, and all fixed charges, appears to have a tendency to quicken and strengthen the productive movement of the community, and thus to make employment more steady, to raise wages, and induce general prosperity.

The great historical instance of metallic inflation is that of the period 1570-1640, already referred to, when, in consequence of the vast production of the South American mines, money in Europe sank to about one fifth of its former value. Such a change could not but profoundly affect the whole substance and structure of society. In a tract by William Stafford, published in 1581, entitled "A Brief Conceipte touching the Common Weale of this Realme of England," is given in the form of a dialogue, the complaints of representatives of several classes of people.

The Knight, speaking for his order, says :

"All or my sort—I mean all gentlemen—have great cause to complain, now, that the prices of things are so risen that you may better live after your degree than we, for you may and do raise the prices of your wares, as the prices of victuals and other necessities do rise. And so can not we so much, for though it be true that of such lands as come to hand either by purchase or by determination and ending of such terms of years that I or my ancestors had granted them in time past, I do receive a better fine than of old was used, or enhance the rent thereof, being forced thereto for the charge of my household that is so increased over that it was, yet, in all my lifetime, I look not that the third part of my land shall come to my disposition, that I may enhance the rent of the same, but it shall be in men's holding, either by leases or by copy granted before my time, and still continuing, and yet like to continue in the same state for the most part during my life and per case my sons' . . .

"We are forced, therefore, to minish the third part of our household, or to raise the third part of our revenues, and, for that we can not so do of our own lands that is already in the hands of other men, many of us are enforced either to keep pieces of our own lands when they fall in our own possession, or to purchase some farm of other men's lands, and to store it with sheep or some other cattle, to help make up the decay of our revenues, and to maintain our old estate withal, and yet all is little enough."

This tract, it will be observed, was published when the great change in the value of silver had been but a short time in progress. Before the close of that period the gentleman was fortunate who had only to "minish the third part" of his household.

Of those who had possessed barely enough for the support of old age or helpless infancy, great numbers were impoverished and brought into dire distress. The traces of the deep disturbances of that

time long remained upon the face of English society.

But it was not alone upon the upper classes that misfortune fell. Serving men and domestics were discharged by reduced gentlemen faster than the existing industries or new enterprises could take them up, and were driven to vagabondage and mendicancy. Moreover, the wages of labor never, as we have seen, rise so soon as the prices of commodities. In an advance of prices so rapid and furious as that we are speaking of, wages fell far behind, and the laboring classes found themselves continually poorer, in spite of the larger amount of silver which was paid them weekly. Those heaviest loaded in the race—the men of large families, and such as had the misfortune to be sick or temporarily disabled—were compelled to resort to charity.

Meanwhile a new cause of distress arose. We have seen that not only do prices tend to rise faster than wages, but that prices themselves tend to rise irregularly, under an increasing money supply. Some articles feel the force of this upward impulse much more quickly and strongly than others, while, at the same time, owing to the conditions of their production, the supply can not be so readily increased. Thus, speaking generally, it requires more time to double the production of meat than of bread, of wool than of cotton, the former belonging to the animal, the latter to the vegetable kingdom, and subject to more speedy multiplication. A fact of this nature added immensely to the evils of England in the later part of the sixteenth and the earlier part of the seventeenth century. Woollen goods re-

ceived an undue share of the new demand, both in England and on the continent of Europe. The use of machinery in the manufacture allowed production to proceed rapidly, only limited by the capability of supplying the raw material. Hence arose a demand for the wool of England, which caused an extensive change in agriculture within the island. Everywhere, in spite of complaints and in spite of prohibitory laws, arable land was converted into sheep walks, greatly reducing the employment afforded by the soil, since sheep require but few laborers. The discharged ploughmen were ill-fitted to enter either the old or the new branches of manufacture, while the privileges of the guilds and corporations and the rights of the journeymen, excluding all who had not duly served an apprenticeship, offered a further obstacle to their earning a livelihood.

Such was the condition of things under which vagabondage and mendicancy rose to gigantic proportions, and in which originated the pauper system of England. Mr Jacob and Prof Cairnes are agreed in attributing the Poor Law of Elizabeth to the wholesale destruction of accumulated fortunes, and the rapid overmastering changes of productive enterprise which followed the flood of new metal from the Spanish-American mines.

So much for the effects of the new silver on the highest and the lowest classes, the class of accumulated wealth, and the class compelled to earn the day's subsistence by the day's toil. How of the

intermediate class—the men of business, the body of persons engaged in conducting the industry of the country? Here, we note, were supplied the two conditions which have been shown to conduce to the greatest activity of the employing class, viz.: The burden of all debts and fixed charges was continually diminishing through the progressive depreciation of the money in which interest or principal was to be paid; and the advancing prices of goods kept ahead of wages, and thus a profit was secured merely from the interval between buying and selling.

But all this would have been secured equally well through an increase in the money supply far less rapid. The new silver could add nothing to the labor power of the community. It could, at the best, only serve, in the ways indicated, to cause the existing labor power to be somewhat more actively employed, with more alertness on the part of the men of business, with a greater readiness to take advantage of new opportunities opening for productive enterprise. But this filip to the zeal of the employing class would, we may suppose, have been given with the maximum of good and the minimum of evil effects, by a slowly progressive depreciation of money. Productive zeal and energy are not always increased proportionally to the gains of business. In no other department of human effort is the line between a just self-confidence, a prompt and somewhat aggressive disposition to take advantage of all opportunities offered, on the one hand, and an overweening presumption and a mental blindness to the long, the large, view of self-interest, on the other, so

quickly overstepped as in the pursuit of wealth. The desire of well-being passes with fatal facility into the greed of gain, especially under the illusions which money has the power to create within the mind

Beyond the mere fillip to enterprise, the stimulus to the zeal of the employing class, which shall secure the most careful and energetic direction of the labor power of the community, the whole further effect of an increase in the money supply must be to transfer wealth from one person or class of persons to another

There can be little question that evils of a wide extent of influence were caused by the unprecedentedly rapid depreciation of money in England, and, in a greater or less degree, in other countries of Europe. Yet, while it was to be preferred that the depreciation should be less considerable, and should be spread over a longer period of time, it was perhaps better in the state into which Europe had fallen that it should come as it did than not at all. The metallic inflation of the sixteenth and seventeenth centuries put an end to the long life-in-death of the middle ages. Perhaps it was the very sharpness of the shock which broke up the lethargy which had settled upon the industrial spirit and the productive powers of Europe. The increase of the money supply contributed greatly to the rise and growth of the maritime power of Great Britain, and, in the language of an economist so careful as Professor Cairnes, "it supplied and rendered possible the remarkable expansion of oriental trade which

forms the most striking commercial fact of the age that followed."

Among more strictly political results of this great movement can be traced, in clear lines, the hastening decay of the feudal power, the increasing dependence of the sovereign upon his people for the supplies which his hereditary domains no longer furnished in sufficiency, and the rising spirit of self-assertion on the part of the commercial and mechanical classes.

## CHAPTER V.

### METALLIC CONTRACTION, OR, THE EFFECTS OF A DECREASE OF METALLIC MONEY.

I CONFESS to a purpose, which may perhaps be charged with artifice, in treating so much at length the effects, social and economical, of expansion or contraction of the volume of money, before introducing the subject of paper money

The latter being a work of man's devising, ethical are almost certain to overpower economical considerations, so soon as the question of paper money inflation or contraction is raised for discussion. The sense of wrong which is aroused by the debtor's paying his obligation in depreciated money, in the one case, or the creditor's exacting a value far in excess of that which was in contemplation of the parties to the bargain, in the other; sympathy with the individuals or classes suffering from changes in the standard; apprehension that the passion of repudiation may be aroused in the debtor class by the example of the payment of debts in cheapened money, these feelings have always interfered with the scientific discussion of the effects of the expansion or contraction of the standard of deferred payments. Writers have been too apt to describe the effects which such courses, according to the view



taken of their moral character, ought to, produce, in place of ascertaining precisely what effects they do produce, and to exaggerate unmistakable tendencies, in order to exert a wholesome influence upon the public mind.

Especially with regard to the effects of contraction have economical writers been greatly influenced by the attitude in which they have come to regard themselves as preachers instead of teachers; as in some degree responsible for the conduct of affairs, rather than as simply bound to investigate economic phenomena fearlessly and impartially. Having satisfied themselves that there is great political danger from the instincts of repudiation and confiscation, they seem to feel it their public duty to divulge nothing that, either by being understood or by being misunderstood, could minister to those instincts. This is not the only department of political economy in which much has been written in the same spirit as if the chemist should refuse to disclose the secrets of poisonous agencies lest men should take advantage of them to perpetrate crimes.

In respect to all which, it is enough to say here that the sooner the political economist dismisses his concern as to the use men will make of his teachings, and gives himself up, without any ulterior purposes, without any side glances at the existing social and political situation, to investigate phenomena and discover truth, the better for all parties. The time has passed for dealing with the masses as children who are to be treated to truth in quantities and on occasions suited to their welfare or the interests

of society. The political economist only abandons his ground of vantage and forfeits the confidence of the community when he accepts any responsibility for the use that may be made of the truth he discovers and discloses.

Knowing, however, the prejudice which is likely to be aroused by any discussion of the effects of inflation or contraction as the result of political action, I have thought it best to limit our present inquiry, as well as that just closed, to the consideration of changes in the metallic circulation. It was not man who hid away so cunningly, so unaccountably, the stores of gold and silver in the bowels of the earth. The sting of injustice adds no poignancy to the losses occasioned by metallic inflation or metallic contraction; the sense of wrong is not aroused, however great the personal hardship sustained, political intention disappears entirely from the discussion; and while sympathy for those who suffer by changes of the standard can not wholly be suppressed, it will interfere far less with a scientific investigation of the total effect of such causes than is possible where human agency is seen to inflict the injury.

The great historical example of metallic contraction is afforded by the Silver Famine of the middle ages. The period of dearth of the precious metals known by this designation lasted almost unbroken for a thousand years, during which, it is computed by Mr. Jacob, the quantity of these metals within the bounds of the former Roman Empire fell to

one tenth of the stock which had existed at the beginning.

The causes which led to so general a suspension of mining industry for so long a time are not more worthy of attention than are those which had allowed and rendered possible the vast accumulation of treasure with which the Roman Empire began under Augustus

There are certain of the monuments of antiquity to which the word incomprehensible is frequently applied. The mystery of the Pyramids is not found wholly or chiefly in their profound mathematical significance, in their recondite astronomical relations, or in the mechanical difficulties of their construction. The wonder of the Pyramids the rather is that they should be at all. The mystery of the Pyramids lies in the motives that led to their building. How incomprehensible they must ever remain to modern thought! Though the physical power of the race has been multiplied a hundred fold, we can not conceive the most powerful nation of to-day rearing the smallest of these structures.

Scarcely less explicable by modern ideas than the Pyramids is the mass of gold and silver in existence in the third and fourth centuries before the Christian Era. How came it, that when trade was in its infancy and most of the mechanical arts were unknown except to two or three advanced peoples, when all the vessels which sailed the waters of the Mediterranean could have been stowed away bodily in the shipping that now leaves Marseilles in a single week, how came it that more gold and silver were

in the hands of men than all Europe possessed at the beginning of the eighteenth century after Christ ?

The explanation of this remarkable fact is found in the essentially non-economical character of the production and use of the precious metals in early times. Had the mines been worked by free laborers for their own gain, and had the product, or the principal part of it, gone into circulation as money, prices would soon have so risen—that is, the purchasing power of a given quantity of gold or silver would have so fallen—that laborers would have been able to earn a day's subsistence more easily at any other occupation than in mining, and hence the extraction of the precious metals would have ceased or been carried on only at a rate to keep the stock good.

But the mines were not worked by free laborers for their own gain. That difficult and dangerous labor, accompanied in those days by horrors of which modern communities can have but a faint conception, was generally performed by convicts, captives, slaves, and serfs, for the benefit of the prince, who was by prerogative the sole owner of the mine.

The labor of the convict was essentially non-economical. He had, in any case, to be confined at the public charge for the protection of society or his own punishment, hence the produce of his labor bore no necessary relation to the cost of his maintenance. The labor of captives taken in war stood in a similar relation. Their employment was chiefly non-economical, having reference neither to repay-

ing the cost of rearing the present body of such laborers, nor to providing a future supply.

The labor of hereditary slaves or serfs was in a degree economical—that is, the prince, if he would keep up their service, must provide sufficient subsistence to keep alive the existing body of laborers, and to maintain the families out of which that body should be replenished. But this servile labor was non-economical in the sense that the prince was not compelled to maintain the laborers in any such degree of comfort as would cause them to prefer this occupation to any other that might be offered.

The production of the precious metals was non-economical in still another and more important sense. The gold and silver extracted did not pass into circulation. They remained the peculiar possession of the prince, or were devoted to sacerdotal uses. They were esteemed for themselves, and not, as in these days, for what they would bring; they were regarded not as a means, but as an end; they remained treasure, they did not become money.

The passion for accumulating stores of the precious metals, wholly without respect to any commercial use, seems, in these early ages, to have been without limit, while the only limit set to the exertions for obtaining them was found in the exhaustion of the working populations under the furious waste of life in the mines.

The spoil which Alexander took at Persepolis alone is stated by Diodorus at £27,600,000 sterling. There is no reason to suppose that had this mass been

doubled or quadrupled by the exactions of the Empire, any economical impulse to its diffusion would have been experienced. The vaster the store the better satisfied the monarch. Gold and silver were not extracted from the earth to circulate through vulgar hands, but to become regal or sacerdotal treasure.

Hence the territorial distribution of the precious metals, which we have described as taking place in modern days through the agency of price—from which it results that each country receives a share of the total stock of the world, corresponding to the wants of its own trade—did not in the early ages take place at all, or was effected very tardily. Gold and silver were distributed not by trade, but by war. It was the conqueror's hand that stripped them from temples and palaces. If they were taken from the store of the monarch, it was not to freight the caravans of commerce, but to fill the chariots and lade the sumpter horses of a victorious army.

As I conceive it, we can only explain the vast accumulation of treasure in Egypt, Persia, or Judea, by reference to the political system of the age. The production of the precious metals was, in the main, especially at the East, non-economical without regard, that is, to the cost of production. It was because kings were completely masters of the labor, and regardless of the lives of their subjects, that such quantities of gold and silver could be extracted from the soil by the rude implements of that age.

The treasures of Susa, and Persepolis could no more have been accumulated under the operation of

commercial demand than the Pyramids have been built by free labor.

With the stores of gold and silver swollen by the operation of the forces which have been indicated, the Roman conquests produced a twofold effect of the highest importance to industry, trade, and society. They put the metal, which had been for ages accumulating as treasure, into circulation as money, and at the same time they inflicted a severe blow upon mining industry, rendering it incapable thereafter of keeping up the supply.

It was not according to the political ideas which prevailed at Rome to keep the vast stores of the precious metals inactive. The gold and silver brought to Italy by successive conquests were made the means of advancing the fortunes of ambitious leaders through donatives of money or distributions of grain, of equipping expeditions for victories in new fields, or of winning popular favor by dispensing with taxation.

But while Roman ambition thus gave a merry circulation to the hoards of Persia and Judea, Roman administration was incapable of keeping good the supply of money.

In the first place, the Italians were unskilled in mining. They knew less probably of the conditions of that art than the people of any other geographical division of the empire. Gold and silver were not produced at all in Italy, and the other mineral resources were illy developed. The Roman system of centralized administration was poorly adapted to the economical working of mines. Unskilful-

ness, indifference, wastefulness, and outright speculation made a speedy end to the profits of working even the most abundant deposits. Recognizing the unsuitableness of their administrative machinery to the uses to which it had been applied, the Romans next extensively adopted the system of "farming" the mines, with the most disastrous results both to the mines as properties and to the laboring populations pertaining to them.

"The farmers," says Mr. Jacob, "took out only the best ores, and neglected those of inferior quality, leaving them in the pits, where they soon became buried in the rubbish with which they were surrounded. The object being to enrich themselves during the terms for which they held the mines, they naturally neglected the interests of future workers, and suffered them to go to ruin. Whilst exhausting the mines of the richest ores, they only cut the passages and propped the roofs in so slight a manner that, if they lasted during the current leases, they would all require to be reconstructed in a short period after, which, when the best ores had been extracted, would be at an expense that could not be replaced by any product of the inferior ores that had been left behind. The various contrivances for keeping out the water from the mines, and the machines and the implements for extracting what could not be kept out, were all contrived to answer temporary purposes."

Again, the very state of universal peace which the completion of the Roman conquests brought to the world, while in general it favored industry and



trade, destroyed one of the principal sources from which the labor supply of the mines had been obtained. A thousand contending tribes were merged in the vast empire which was bounded by the ocean, the Rhine, the Danube, the Euphrates, and the Desert of Africa. War, as a means of obtaining slaves, for a time ceased from the earth.

That long enforced peace was at last rudely broken by the series of Teutonic invasions which resulted in the downfall of the Roman power; but the new wars brought no laborers to the mines of Europe. The lands earliest invaded were those on whose produce the world then chiefly depended for a supply of the precious metals. The *Metallis Adscripti* of Thrace and Spain became the personal slaves of the conquerors, or swelled the ranks of their armies. The invaders knew little of any mechanical art; nothing of working mines. The mining system received its death blow, the mining populations were scattered, the mining machinery was destroyed by barbarian rage, or perished speedily from neglect, and soon even the traditions of the art were lost. For hundreds of years no record remains of any production of gold or silver in some of the richest countries of Europe.

Such, rudely traced and hurriedly grouped, were the causes of the silver famine of the middle ages. Slowly the vast treasure of the time of Augustus wasted away, from the effects of accidental loss or natural wear in use. Steadily the purchasing power of the precious metals rose. First gold came to be too costly for the usual purposes of trade,

and returned again to be treasure in the cabinets of princes or the caskets of bankers. Later, silver itself grew too dear for the daily purchases of a family, even the wealthiest, and copper or iron took its place as the money of ordinary life.

“The fall of the Roman Empire,” says Sir Arch. Alison, “so long ascribed, in ignorance, to slavery, heathenism, and moral corruption, was in reality brought about by a decline in the gold and silver mines of Spain and Greece, from which the precious metals for the circulation of the world were drawn, at the very time when the victories of the legions and the wisdom of the Antonines had given peace and security, and with it increase in numbers and riches, to the Roman Empire.”

Doubtless this claim is far too large. Causes distinctly political and social had to do with the downfall of that mighty fabric of military enterprise, legislative wisdom, and administrative skill; but it seems to me that there can not be an intelligent doubt that the steady rise in the value of money, due to its increasing scarcity, contributed greatly to the impoverishment of the people, the decay of commercial enterprise and the abandonment of agricultural lands, which sapped the foundations of the Roman Empire.

Of the revenue of the State, the greater part was obtained in money, and of this the greater part, it is probable by far the greater part, was derived from charges which did not vary with the amount of production, with the volume of business done, or with the profits realized, but were fixed for shorter or

longer periods of time, and sometimes in perpetuity. We know that the collection of taxes involved such odium that the decurionate was made compulsory, that an attempt to evade this duty was declared sacrilege or impiety, that, in spite of penalties, men abandoned their homes and fled to avoid the service. We know, by evidence on which no doubt can be thrown, that it was the severity of taxation which threw out of cultivation much of the finest land of the empire, and even of Italy, and we know also that this was not effected so much by new impositions as by the increasing weight of familiar and traditional taxes. We know, moreover, that the burden of existing imposts was so fully recognized as intolerable that it became a fashion among the better emperors to remit taxes in favor of communities or classes of persons, especially meritorious or especially distressed. These attempts at readjustment, however, were made tardily by the best emperors, and necessarily not without favoritism and ill-advice, throughout a dominion so vast, as to the proper subjects of remission or exemption. Often the indulgence came too late, industry had received its death blow, and the power which could kill found itself unable to make alive again. The more avaricious and reckless emperors, and those who had raised themselves by corruption, and had to maintain their place by donatives and distribution of grain, thought not of exemptions or remissions. They drained every source of receipt to gratify their ambitions or their appetites, regardless of the consequences to the industry of the present, or the revenue of the future.

But it was not alone through the increasing pressure of taxation that the steady diminution of the money supply during the first centuries of the Christian era did mischief to trade and production. The burden of all fixed charges, as between man and man, rents, life annuities, mortgages, experienced a like augmentation. Year by year and age by age, as the original stock of the precious metals dwindled away by wear in use and accidental loss, did it become harder and harder to make money payments, and all the while the profits of all commercial and manufacturing enterprises were being subjected to a stealthy but unceasing loss, due to the enhancement of the purchasing power of money between the time when materials and labor were purchased or contracted for, and the time when the goods were marketed and paid for.

We inquired on a previous occasion into the effects upon trade and production of an increase of the money supply. We saw that, so long as the increase was moderate, it had the tendency (1) by diminishing the weight of all debts and fixed charges, (2) by providing a fund immediately available for new enterprises, for industrial experiments, and for the extension of existing branches of production, and (3) by enhancing slightly the average rate of business profits through a rise of prices between the time of buying and of selling, to keep the productive energies of a people thoroughly employed, and to give a fillip to the zeal and activity of the business class.

It might be thought that this discussion would

serve sufficiently to indicate the effects upon trade and industry of a metallic contraction, but I must, in order to discharge my duty to this important subject, ask attention to a more careful analysis than has yet been necessary of the conditions under which the production of wealth is carried on in all advanced societies.

It would seem that the most important of the questions which political economy is called upon to answer is the question why the production of a people so often falls below, and remains below, what would result from the proper application of its labor power and its capital power to the natural agents—land, water power, mineral resources, etc.—of the country in which they dwell? Why is the actual at times so far short of the maximum production? Yet there is no question with which political economists have so little concerned themselves. There are scores of systematic treatises on my shelves, from which not a hint could be obtained in explanation of the economical situation of the United States at the present moment, and indeed at any time during the past five years—an immense labor power and capital power, only partially employed, while natural resources remain unexhausted, and even in a large degree undeveloped, to which labor and capital might be applied to the satisfaction of human wants. Those wants remain unsatisfied; poverty and suffering result to hundreds of thousands; straitness of means and diminution of comfort to millions more, and yet there is no indisposition of the capitalist to derive an income by allowing the

use of his money in production, and no reluctance of the laborer to work. Abounding natural resources, unemployed labor power, unemployed capital power, no lack of disposition to labor, and yet an enforced idleness, and resulting poverty and squalor

How can this be? In the absence of any attempt by professional economists to account for the phenomenon, public speakers and the newspapers are driven to answer for themselves the question with which we started. This they generally do by the use of one of two phrases, which seem to be regarded as mutually exclusive. "Over-production" says one party, "under-consumption" retorts another, and those who say over-production ridicule those who allege under-consumption, while the latter retort with equal scorn.

Let us examine the process by which wealth is produced and brought to market. Perchance we shall find that, like all condensed phrases, over-production and under-consumption signify more than one thing each, that, in certain senses, each phrase embodies a great deal of arrant nonsense, that, taken otherwise, each embodies a vital truth; and that, so far as either means any thing at all, that meaning is exactly identical with what is expressed in the other.

All producers are also consumers. They produce only because they desire to consume. They produce only as much as they desire to consume, now or later. The idea of over-production, then, involves the absurdity of supposing that men will labor without the disposition to consume the fruits of their labor.

But passing over this initial absurdity, we notice in the use of the phrase over-production a vague notion that the amount of necessities, comforts, and luxuries which a community at any given stage of its progress is prepared to consume is a definite amount; and if that amount is somehow, by means not explained though hinted at in mysterious uses of the word "machinery," increased rather rapidly, the capacity for consumption will be outrun, and the community will stand, without appetite, before a mass of wealth, for which it knows no uses, and with which on the moment it is utterly at a loss how to deal.

Rapidly as the productive capability of the more highly civilized nations has been increased in certain periods of extraordinary development, as during the last quarter of the eighteenth and the first quarter of the nineteenth century, by the invention of new arts and the introduction of machinery, there is not the slightest reason to doubt that the disposition of the community to consume wealth would have run ahead of its power of production had the increase been far greater than it was.

Let us look at the matter practically, concretely. Is there any mechanic or laborer receiving wages to the amount of \$500 a year who would not be able and willing to spend \$1000 or \$1500 if he had it? This does not imply that he would consume twice or three times as much of each article of his present consumption, but that he would find means to make way with the larger income, if it were put into his hands, in forms available for his uses, or,

rather, in the shape of money available for any use. Is there any professional or business man spending \$3000 or \$5000 a year who could not easily and satisfactorily give account of an income of \$6000 or \$10,000? It is absurd to suppose that the limit of possible consumption can ever be reached. What with houses, and horses, clothes, equipage, and travel, costly viands and drinks, this community, and any community, could double or quadruple its consumption of wealth instantly were the wealth only provided.

The phrase "Under-consumption" likewise involves an initial absurdity as applied to so-called "hard times." Take the present period, for instance. We are suffering, it is said, from under-consumption, and yet it is notorious that never in our history has consumption followed so closely upon production, never has the food earned been eaten up so quickly, never has the margin of possible saving been so small, as in these five years past. The laboring class, working at low wages and perhaps on part time, have had of simple necessity to expend upon their immediate subsistence a larger part of all they produced than in ordinary times. A strange term surely to apply to the present period—this Under-consumption!

But passing by this initial absurdity, we find that beneath the phrase under-consumption lurks a vague notion that wealth, after it has been produced, gets somehow or other in the way, so that more wealth can not be produced unless the existing stock be eaten, drank, worn out, or burned up, or by



some means gotten rid of. Now this globe is so large that there is room on it for an indefinite amount of good things, and except as existing wealth is required as the material of new production, there is no reason whatever why any portion of it should be put out of the way in order to make room for more. If men were willing to produce wealth without needing or desiring to consume it, they might go on producing to the crack of doom, without under-consumption ever standing in the way of fresh production. As a matter of fact, men will produce only as they desire and expect to consume, but consumption will generally look after itself. The risk of failure is in the production of wealth. Trust men to consume wealth fast enough, if it is only given them in forms appropriate to their uses.

Exactly here, in this last clause, is the rub. Production may, through the force of speculative impulses, especially when improvements and inventions are multiplying fast, or when bad money enters to generate illusions and to work injustice in contracts between man and man, become so perverted from its proper course, so distorted from its true proportions, that the amount of certain sorts of wealth may be increased far beyond what the community require of them, the total production being no greater than it is. This is what is called over-production. It is not, however, general over-production, but only over-production in certain lines, a condition towards which industry is continually tending, and from which it has often to extricate itself and retreat, with not a little of delay, embarrassment, and

ultimate loss. Over-production existing in a few lines, under-consumption of the articles so produced in disproportion necessarily results. The market for these is glutted, production is checked, and inasmuch as the capital and labor engaged can not readily, if at all, be transferred to other branches of industry, they remain wholly or partially unemployed, and the general production of the community is in so far diminished. And so we reach the conclusion that what is commonly termed over-production—which is only local and partial over-production—really means under-production. It is under-production, not over-production or under-consumption, which makes hard times. General under-production is the real evil from which men suffer, is, indeed, the only economical evil from which men can suffer. Over-production, general over-production, is, as we have seen, impossible, and were it to occur, were the creation of wealth to outrun men's capacity to consume, no one would be injured thereby. But under-production is an unmistakable evil. It means less wealth produced, and consequently fewer of the comforts and necessities of life, on the average, to each member of the community. To large classes it means hunger, cold, and squalor, debility, sickness, and premature death. Let us, then, deprecate under-production; pray against it, perform sacrifices to avert it; but let us not talk about over-production or under-consumption as the cause of hard times.

Setting aside these terms in which, as we have seen, lurks so much deceit, let us analyze the pro-

cesses of industry to find out how it can be that, with natural agents unexhausted, capital and labor power may be absolutely precluded from remunerative employment, while yet capitalists and laborers are eagerly and anxiously desirous to take part in production.

It is evident that, were there no division of labor into separate occupations, production would, within the capabilities of the several agents concerned—land, labor, and capital—only be limited by the effective desire felt by the several individuals of the community to consume wealth. The relation between production and consumption would be a very simple one. Each man, working by himself, for himself, would limit his production by his own desired consumption, and would direct his efforts unflinching to that consummation. He would, accidents aside, produce only what he desired, he would, within the limits of his power, produce all that he desired with sufficient earnestness to overcome the natural indisposition to exertion.

From this low point of industrial development, where each man, working for himself, by himself, produces the identical articles which he expects and desires to consume, we mark three stages in the progress to the highest productive organization. The first is where distinction of trades is introduced, and men no longer consume the identical articles they have produced, yet where the consumers are known to the producer, and live within a limited area. Production generally waits for an order from the would-be consumer, or, if goods are produced

without a definite order, it is done in the reasonable expectation that some certain person, or some one out of a certain known group of persons, will need the goods soon after they are produced, and will become the consumer

We find the second stage where the element of personal acquaintance between producer and consumer in the main ceases, and goods are now produced for a general market. Production no longer waits for orders, but anticipates demand, and goods are produced upon a calculation of the quantity probably to be required. So far, this stage marks great progress in industrial development; but it is necessary, in order to complete the description, to add that production is mainly carried on by artisans working singly or in small groups, each being competent to do every one of the successive operations of his trade. Tools and implements are still comparatively simple and inexpensive, and machinery, in the sense in which we use this term, exists only in primitive forms. Fashions are few, and styles remain standard for considerable periods of time, making it safe to produce at an equable rate throughout the year.

The third stage is reached when powerful and complicated machinery is introduced, and costly structures and plant are required; when production becomes highly diversified, and the specialization and localization of trades is carried so far that a single town, or group of towns, produces half the goods of a certain sort consumed throughout the whole world; when instead of a few artisans work-

ing together, all thoroughly accomplished in every part of their trade, all on a basis of substantial equality, great numbers of operatives of both sexes, of all ages, and of every degree of strength, skill, and intelligence, are gathered under one roof, each knowing only his or her own part of the process of production, all requiring to be instructed and disciplined, organized and commanded by a single intelligence and a single will, when fashions become multiplied, and standard styles almost disappear, each year, each season, bringing minute modifications of demand which can not be disregarded except at great loss, and when, consequently, production tends to gather itself into great waves, with corresponding intervals of depression, the highest activity succeeded by dulness, men and machinery kept at work to the utmost limit of power and endurance for six months, in anticipation of the fall and the spring trade, and for the remaining six months of the year kept at the most leisurely pace, or thrown out of employment altogether

It is evident that, at each successive stage in the progress thus traced, the productive capability of a community will be increased, but that, coincidently, at each stage the opportunities for misunderstanding between the body of producers and the body of consumers are greatly multiplied, and, secondly, that industry falls more and more under the control of men of exceptional abilities, with whom rests all initiative in production. And if we examine the catalogue of articles produced under these conditions, we shall find some of them supplying wants

the most constant and imperative We shall see others ministering to the lightest tastes, or gratifying the most casual fancies Between these extremes are a host of products meeting desires of varying intensity. A witness before the House of Commons Committee on Artisans and Machinery in 1824 entered into calculations to show the amount of money expended annually in England for the glass eyes used in making children's dolls, and found it very considerable But making dolls' eyes is a serious business compared with that which engages tens of thousands of laborers in any large country like England, France, or the United States, hundreds of thousands more are employed in producing articles for personal consumption, the deprivation of which would not induce hunger or cold, or impair health, or be incompatible with public decency or individual self-respect

Suppose, now, this intricate organization of the producing body to have been carried to its limits, as the result of a long-continued period of general prosperity, leading to the greatest extension and diversification of production, when a disaster, industrial or financial in origin, befalls the community. No matter where it comes from, or where it first strikes, it temporarily diminishes the productive power of the community as a whole. Immediately the consumption of the articles least essential to comfort and decency is in a degree checked. If we suppose the thousands of articles known to the market to form twenty-six groups, A to Z, the importance to human welfare diminishing from the

head of the alphabet to the foot, we may assume that the first effect of the calamity we have supposed to take place will fall upon the consumption of articles in groups X, Y, and Z. The demand for the products of the trades furnishing these articles falls off rapidly. No matter, as we said, where the blow first fell, the laborers affected produce less for the time, and must limit their consumption, which they do by cutting off entirely, or greatly restricting, their use of articles below group W. The labor and capital employed within the lowest three groups can not be transferred easily or soon to other groups. The laborers especially must take the fate of their chosen occupation. Hence they find themselves employed on part time, and at reduced wages. But the sums they formerly earned were expended in purchasing articles all the way from A to Z. In their distress they cut off their consumption of all articles except those of prime importance, say from A to M. This involves a reduced demand for the products N to W. Each group of producers in this part of the alphabet, then, are obliged to curtail still further their consumption of articles X, Y, and Z, while producers from S to W begin to diminish their use of articles below T. This effect at once becomes the cause of new effects. The unfortunate representatives of X, Y, and Z are now obliged to cut off their use of products from H downwards. Producers T to W have to deny themselves all indulgence in products N downwards, producers N to S in products below R.

Group I to M next experience the necessity of self-

denial, while X, Y, and Z are now glad to get enough of A, B, C, and D to subsist upon, and S, T, U, V, W carry their retrenchment upwards till they stop at M ; and so the movement goes forward until even the favored producers A to D experience some reduction in the demand for their products, and producing less in consequence, have less to exchange for the products of others, just as a stone thrown anywhere into a lake produces a wave which extends outwards in every direction till it reaches the bank even in the most retired nook along the shore.

It is evident that, were the community perfectly intelligent and self-possessed, the ultimate result of all this would be the distribution of the whole initial shock over the entire producing body. No addition would be made to the force of that shock as the movement proceeded, and the effect upon each successive trade or group of producers would be less as it was found further removed from the part suffering the original impact. Those producing articles the most necessary to life, health, and social decency would suffer to hardly an appreciable extent, just as the wave set in motion by the rock thrown into the centre of the lake becomes the merest ripple by the time it reaches the shore.

This is all that is logically involved in the propagation, through economical media, of an original shock like that assumed, and in just this way industrial injuries are often distributed throughout the producing body, without panic, without apprehension, perhaps without observation. And this is all



that, in any event, could be experienced in the first stage of productive development, described; and but little more than this is likely to be experienced in the second stage. In the third and final state of industrial organization, however, lie vast capabilities of disorder and disaster. Let but the shock be sharp and severe, and let it fall in with an anxious, apprehensive mood of the public mind, or find the producing body a little unstrung by reason of political or industrial disturbance, and we shall see the impulse propagated with ever-increasing force from subject to subject till the movement acquires great violence. The commercial panic we are all familiar with, by experience or report. We know how some slight cause, acting on the fears and imaginations of men, will overthrow the commercial structure of a nation in a few weeks, or even days, prostrating the proudest houses, and spreading ruin far around. There is nothing that can stand against panic, one man's fear makes another man afraid, one man's failure brings down another, who, but for him, would have stood firm; and so the mischief proceeds.

Now the same cause operates probably with not less force upon productive industry, but its working is much more obscure. A manufacturer feels the demand for his goods fall off somewhat. In ordinary times he receives the fact as an intimation to reduce his production, but only to a corresponding extent. Indeed, in good times he would receive the intimation in a somewhat skeptical spirit. He would not be disposed to believe that any serious

check was to be experienced. He would look to see trade start up again at the opening of the next season ; and in this mood he would reduce his production somewhat less than correspondingly. To that extent he would speculate—that is, he would anticipate events and discount the future. For the moment, then, he would transmit the shock, not aggravated, but modified, from what he received it. In time, if the demand should persist in remaining below the average of past years, he would be obliged still further to curtail his operations ; but, even in this event, his action would have served to spread the effect over a longer period.

But let the shock be at first severe, and let it come upon the public mind in a suspicious mood, and the consequences may be indefinitely more serious. The merchant feels the demand for goods fall sharply off. He fears that there is more to come. He is determined not to be caught with a large stock on his hands, and in his orders to the manufacturer he exaggerates the natural and proper effect of the change in the market. He orders even less than the present condition of things might justify. The manufacturer, on his part, knows nothing of the actual falling off in demand ; he only knows it as it comes to him heightened by the apprehensions of the merchant. In his turn, he exaggerates the evil and reduces his production more than proportionally. His concern now is, not so much to make profits as to save his capital. He knows he will be safe if he runs his mill on three quarters or two thirds time ; and he fears he may lose heavily if he runs full time.

But this action of manufacturer Z is of itself, as we have seen, an element in the conditions of production for all the lower letters of the alphabet. As he pays less wages, his workmen have less to spend for the products of other branches of industry. The merchants in these lines, feeling the falling off in demand, exaggerate it in their orders to the manufacturers, especially X and Y. These, apprehensive of worse to come, curtail their operations more than correspondingly; and so the movement proceeds with increasing force. And, let it be noted, however unnecessary Z's action in reducing his production below a certain point, yet, if he only does so, that action makes a corresponding reduction in X and Y's operations just as necessary as if Z had had a good reason for what he did, and if X and Y, in turn, become alarmed, and overdo the thing, that of itself constitutes an absolute obligation upon manufacturers higher in the alphabet to cut down their work and wages.

Two questions arise upon this view of the power of apprehension and suspicion to aggravate the force of any industrial or financial shock in checking production. The first, how far may it be carried? the second, how long may it last?

1. How far may this be carried? May the movement to check production proceed till all industry is locked fast in a vicious circle, no one producing because others will not consume, and no one being able to consume the products of others because he himself produces nothing with which to buy them?

I answer, no. The staple industries, and espe

cially those producing the absolute necessities of life, will never be suspended. The demand for their products is so constant and certain that panic can have no great power over them. Groups A to D will continue to produce nearly as much as ever, not quite so much, because there are individuals thrown out by the revolution at the foot of the alphabet who are unable to find a place in the industrial order where they can produce enough to purchase even the barest subsistence. Groups E to H or K, moreover, having to do with articles essential to comfort and social decency, will withstand the shock communicated to them sufficiently to maintain a production not very far below that of good times.

Now so long as A to D produce liberally, and E to H or K produce still considerably, all the persons employed within these groups will have the means of consuming the products of groups still further down the list, and hence industry will be kept alive in those groups which produce articles not essential to life or health or decency.

It is, of course, impossible to state just where equilibrium would be reached in a community of highly diversified production, like England and the United States; but there could, I think, be no question that the causes we have been considering might result, after the series of actions and reactions should be completed, in bringing the aggregate production down to two thirds its former amount. It does not seem irrational to suppose that the movement might even proceed till one half the labor

power and capital power of the community were for the time neutralized.

How long may such a condition of things last? I answer : in theory, it may last indefinitely. Practically, it is liable to be terminated, after a longer or shorter period of suspense, by reviving courage and enterprise on the part of the men of affairs, or through the stimulus to production administered from, it may be, some unexpected quarter. It may be so slowly as to be almost imperceptible, it may be so rapidly as to outrun calculation, that the expansion takes place. This will depend much on the natural temper of the community, much on the immediate cause provoking renewed enterprise, much on accident. The one essential condition is that speculation be initiated—that is, that men begin to look ahead, to anticipate demand, and to discount the future. One man begins to produce no longer on orders, no longer cautiously and fearfully as if it were too much to believe that his goods will be taken off his hands, but in a more sanguine spirit, assuming the initiative in production, and boldly encountering its risks. Producing more largely, his workmen have more to offer for the products of other industries, which is of itself a reason for a larger production in these branches, whose managers and proprietors respond in the same spirit. Finding the demand increasing, they act as if they believed it was about to increase still further. They produce somewhat in anticipation, and thus give their hands more to offer in exchange for the production of still other industries, and so the movement pro-

ceeds, gathering force as it goes, and production swells continually under the contagious influence of hope and courage, just as before it shrank and shrivelled under the breath of fear and panic

I have said that peculiarities of national character have much to do with the speedy or tardy revival of production. Nowhere ought recovery to be more rapid than in the United States, for among no people is there more of elasticity in respect of hope and courage, greater alertness of action, more readiness to assume responsibilities and to run risks. Nowhere, too, does nature afford an ampler margin for subsistence, or more abundant material for the repair of mistakes and misadventures.

The history of the panic of 1857 offers a capital illustration of the facility with which the American people recover from the sharpest contraction of productive industry, where nothing withstands the revival of trade, and where no second shock remains to be experienced. The country was in a generally sound condition, both as to capital and credit, when the blow fell. As the result, industry had scarcely shrunk to its minimum, under the baleful influence of panic, when the enterprise and courage of merchants and manufacturers began to cause expansion, and within a few months our production was again at the limits of our capital and labor power

When the panic of 1837 came, the country was in a wretched condition, through the misapplication of capital and the wide extension of credit. The buoyancy of the national temper led even at this time to a speedy revival; but the succeeding shock of 1839

threw the country back again, and the fear and distrust thereby engendered kept the energies of the nation in a state of partial repression through a long, weary period, extending down to 1843. Such may be the influence of a single instance of hard fortune upon reviving industry. Quite as prejudicial to expanding production is the continual apprehension of hostile or meddlesome legislation. When the whole body of business men are sore from disasters, when much of the industrial and commercial structure still lies in ruins, it takes but little to check the disposition again to adventure capital, the more valued and the more anxiously considered because of losses already sustained. That little is abundantly supplied by the popular apprehension of legislation unfavorably affecting money and credit.

Returning from this long excursion into general economics, we shall easily and quickly make our application of the principles we have gathered to the question now under discussion. At a glance we can see what are likely to be the effects on trade and industry of a contracting metallic circulation. Just as a metallic inflation adds a premium to business profits and gives a filip to the spirit of adventure, so that, in the phrase of Hume, "every thing takes on a new face ; labor and industry gain life , the merchant becomes more enterprising, the manufacturer more diligent and skilful, and even the farmer follows his plough with greater alacrity and attention," so a metallic contraction constitutes a tax levied day by day upon the profits of business ; just so much is taken from the encouragement to contract

for labor and materials and undertake production, and added to the natural risks and losses of manufacture and trade

In ordinary times, when all other circumstances favor production, the influence of a contracting circulation, though it must be exerted prejudicially to enterprise, may have no very serious results, but in times of business failure, of disaster to trade, of general apprehension and alarm, such a weight can not be thrown into the scale against the profits of business without great evil. And when production has collapsed in consequence of some shock from whatever source proceeding, the steady, unrelenting pressure of a contracting circulation must constrain the energies of the community, must check the forward impulse, must increase the chances of loss in the initial adventures of reviving production, must strongly tend to prolong the period of suspense, and create an industrial valetudinarianism from which the nation may not soon recover.

It need not be a great thing under a man's arms which will so increase his margin of buoyancy as to enable him to float for hours. It is a very little thing around a man's neck which will so diminish his margin of buoyancy—narrow at the best—as to drag him to the bottom.



## CHAPTER VI.

### SILVER AND GOLD AS MONEY.

WE have thus far spoken of the precious metals without distinguishing between silver and gold, as if they formed a homogeneous body of money. As a matter of fact, silver and gold have always had their terms of mutual exchange ; the one has been habitually bought with the other. Of all possible ratios of exchange, there can at any given time, in any given place, be but one which will extinguish all preference for the one metal over the other. Let that ratio be departed from, in ever so small a degree, and men will begin to turn gold into silver, or silver into gold. Let that ratio be widely departed from, and the exchange of the metals will become active.

The great historical trade in the metals has been that between Europe and Asia. In the earliest ages of which we have record, silver flowed from Europe to Asia ; gold returned in a stream of smaller volume to Europe. This exchange of gold for silver between the West and the East constitutes the most important exception to the statement previously made regarding the non-economical nature of the production and distribution of the precious metals in the early ages. The Tyrians, and after

wards the Carthaginians, employed their great commercial talents in exchanging the silver of Western Europe, and especially of Spain—the reputed Tarshish of Scripture—for gold with Arabia and the further East, perhaps with India itself. That preference of silver over gold, at the rate at which gold would purchase silver in Europe, has not yet been extinguished in the oriental breast. Still the Indian demand constitutes one of the most important elements of the silver problem.

I said that as silver flowed to Asia, gold returned in a stream of smaller volume. It may be thought I should have said of much smaller volume. But, in fact, the terms of exchange between the metals were not in early ages so unfavorable to silver as we have known them in our day, or even as we are accustomed to think of them in the past. Fragments of classic works remain, which intimate that at one period silver was valued much more highly in Arabia, weight for weight, than gold, while the learned researches of certain modern writers seem to establish the fact that the value of silver in many countries and for long periods equalled, if it did not exceed, that of the metal now esteemed the more precious. And even in our own day it was found that in Japan, just then opened to our trade, the value of silver to gold in the coinage was as one to four. It need not be said that American and European enterprise gave the Japanese an early lesson in the relative value of the two metals, which caused a speedy reformation of the coinage to suit more nearly the facts of the outside world.

In Europe we have no record of any such near approach of silver to gold in value. Until within the last five years gold has from the earliest time been more valuable than silver in the ratio of from 9 to 16 . 1. Since 1873 we have seen an ounce of gold purchase not less than 20 ounces of silver.

The point now reached requires us to make a distinction not heretofore found necessary. It has been said that value is purchasing power, the power of commodities in exchange for each other. Price is the power to purchase money, it is the money value of commodities. Money itself, then, while it has value—*i.e.*, power to purchase commodities, has not price—*i.e.*, power to purchase money. To regard money as purchasing money, so long as money is considered homogeneous, would be an absurdity. No reason for preference could exist, and hence no exchange would take place.

But when we come to contemplate money as composed of two variable elements, it is evident that the value of either may be expressed in terms of the other. Hence, we may speak of the price of gold, meaning its silver-value; or we may speak of the price of silver, meaning its gold-value.

It is easy to find reasons for variation in the gold value of silver, the silver value of gold.

1. The metals have in a great degree their separate sources and conditions of supply. Silver is generally drawn from deep mines. A very large part of all the gold produced in the history of the world has been drawn from “*placers*”—surface deposits, where the metal lies in fine grains, mingled with the

sand in the beds of old rivers, or has been derived by the process of hydraulic mining, where the force of water is directed by engineering skill to accomplish the same work in a few hours which in the case of the "placer," or "gulch-gold," has been done by centuries of frost and flood. Hence, the production of silver is generally pursued through systematic mining operations. The production of gold is more largely influenced by accidental discoveries. Moreover, owing to its very low affinity for other metals, gold is largely found native, while silver, from the high degree of affinity it exhibits, is generally found in ores, so that the problem of its production involves both mechanical and chemical elements.

It will appear from what has been said that the comparative production of gold and of silver is likely to be influenced greatly by accidental discoveries of deposits, which are likely especially to favor gold production, and to be influenced greatly, also, by the progress of the arts, which is likely especially to favor silver production. The distinction between gold and silver, as to their conditions and sources of supply, is carried out, in a general way, to the continents of the globe which produce them. Europe and South America have been the great historical silver continents; Asia, Africa, and Australia have chiefly, almost exclusively, produced gold. North America is the only continent that has produced the two metals in any thing like equal value. First, through the Mexican mines, it made important contributions to the stock of silver, then the Californian discoveries constituted it the great-

est gold field of the world, and more recently the extensive silver deposits of Nevada have turned the scale of production to the side of the other metal.

2. The precious metals have, in a certain degree, their separate sources of demand. The uses of gold and silver in the industrial arts are widely different. In the ornamental arts the tastes of an age or a people may assign a preference now to one and now to the other. Even in their function as money, gold and silver have not been wholly of common or indifferent use. The habits and traditions of a people and the scale of their exchange transactions may make an ounce of gold, for instance, more desirable for use as money than a certain number of ounces of silver, while among another people that quantity of silver may have a decided preference for the uses of exchange. Practically it is of great consequence that the metal or metals to be employed as money, while possessing high value for a given bulk and weight, should yet be found in quantity sufficient to afford pieces of such purity as to remain bright and clean in circulation, of such size as to be handled and carried about conveniently, in number sufficient for the needs of the community. It is evident that the number of money pieces will depend upon the spending habits of the people, and that these habits will vary with their social condition, the equality or inequality with which wealth is distributed among the classes of the community, the rapidity of circulation, etc., etc. Iron once served the Lacedæmonians as money; but it would be an impossible money to-day for any but a nation of outright savages. Copper

once formed a considerable part of the monetary circulation of Europe, with the highest advantage of the commercial community. The prejudice of the Athenians against copper coins, which led them to use silver coins for the exchange of low values, was unreasonable, and caused great practical inconvenience, inasmuch as the coins thus used were little larger than the scales of a fish, easily lost, and very troublesome in handling. But copper has now dropped out of use as money in all advancing nations except as the smallest of small change. Within the last three hundred years silver has become the ordinary money of the civilized world, and it has already become quite a fashionable doctrine that even silver has in a large measure survived its usefulness, and has grown too heavy to serve as the money of communities like those of Europe and North America. However this may be, it is manifest that in the United States, England, and perhaps France, the prevailing rates of wages and prices are such as naturally to create a preference, from considerations of convenience only, for gold, in place of silver, as the money of general circulation.

We have seen that the two so-called precious metals have each its own sources and conditions of supply which are widely different from those of the other; and that they have also, in a certain degree, separate sources of demand. Evidently here is the occasion for large and frequent variations of value in the gold-value of silver, in the silver-value of gold.

But while this occasion for a divergence in value

between the precious metals exists, there are causes which serve more or less effectively to restrain that divergence. These are :

1st. The durability of the metals already noted. We have seen how this property tends to keep the value of gold or silver comparatively steady, since the great mass at any time in existence allows an excess or deficiency of production for one year, or for a term of years, to exercise but small influence.

The same cause operates to reduce the extent of the variations in the gold value of silver and the silver value of gold. If the crop of corn falls off on the same year on which the output of coal is exceptionally large, we look to see the power of a given quantity of corn to purchase coal largely increased, but a very great increase in the yield of silver coincidentally with a considerable reduction in the yield of gold could not seriously affect the relative value of the two metals, unless persisted in for a term of years.

2d. The interchangeable use of the two metals in the arts of decoration, and for purposes of ornament, has a tendency to reduce variations in their relative value. While some of the uses of each metal are characteristic, there is also a wide field occupied by them in common or indifferently. Articles of silver and articles of gold are kept for sale in the same shops, they are sold to customers in the same rank of life. A person entering such a shop often has no explicit intention as to the article he is to purchase. He is more likely to know how much he is prepared to pay for something that will an-

swer his general purpose. He may buy a small article of gold, or a large one of silver. A fall in the price of either metal, then, promotes its consumption, and thus the fall is in a degree checked.

3d. The interchangeable use of the two metals as the medium of exchange has a strong tendency to check variations in their relative value. Although, as we saw, each has uses in exchange which give it a preference within that field over the other, there is also ground which they occupy in common or indifferently. For payments of a certain class people can use more silver or less silver, more gold or less gold, with no appreciable diminution of convenience. Take for illustration the English half sovereign. The number in use is very large, and the coin may be said to be on the whole a public convenience. Yet, in getting change for a sovereign, at one time you receive a half sovereign, with half crowns, florins, and shillings for the balance, at another, you receive the whole in silver, and you really don't much care which

Within this common ground, there is room for a greater or less use of either metal, which allows demand to be increased or diminished to correspond with changes in the supply

4th. The interchangeable use of the two metals, as the standard of deferred payments, under sanction of law, produces a direct and very considerable effect in checking variations in their relative values, that effect being proportioned to the extent of the exchange transactions to which such interchangeable use applies.



It is upon this last point that the theory of bimetalism, or the alternate or concurrent use of the two metals as money, is made to depend. It is acknowledged by its advocates that the force of the influences noted under the first three heads is exhausted in reducing appreciably the natural variations in the relative value of gold and silver; but it is claimed that the law, by making either gold or silver, indifferently, legal tender in payment of debts, can reduce the variations to a minimum, or cause them to disappear altogether.

Let us recur to our statement of the principle which governs the value of either metal, or of both so long as they are regarded as forming a homogeneous mass of money metal. We saw that the value of metallic money is not governed by the cost of production, in the present or in the past, but results solely from the relation existing between demand and supply, the past cost of production being only relevant as having influenced the present supply, the present cost of production being only relevant as likely to influence the future supply. In the existing situation it is only the demand for money, taken in connection with the supply of it, which determines price—that is, the value of money.

How, then, can law, or the action of government, affect the value either of gold or of silver?

In one of two ways only. By influencing the supply of the metal, or by influencing the demand for it.

Can law influence the supply of a money metal? Only by first influencing the demand. No mere declaration, or proclamation, or decree, can in-

crease the weight or the bulk of the mass of such metal in the hands of men, or have any effect to discover new deposits of such metal, or diminish the mechanical and chemical difficulties to be overcome in producing—bringing forth—the metal from existing mines.

Can government administratively influence the supply of a money metal? Only by directing labor and capital already in existence, and applicable, or actually applied, to other uses, into that channel. We have seen that the arbitrary rulers of the old world, the princes and potentates of an early age, did, in fact, vastly increase, by the exercise of their will and power, the amount of gold and silver, creating a stock so vast, even with the rude tools and unskilled labor of those days, that it was not equalled for more than two hundred years after the discovery of America. But this was only accomplished by an expenditure of labor force of which it is difficult to conceive, leaving those countries poor in other respects, and, in the end, destroying entire populations.

It is not, however, from legislation, or through the action of government in influencing the supply of either or both of the money metals, that the advocate of bimetallism expects to derive the force that shall neutralize the admitted tendencies to divergence between the respective values of gold and silver. It is wholly through an operation upon the demand for the metals severally that he looks to see this accomplished.

We therefore pass to this head. Can law or government influence the demand for a money metal?

Clearly, unmistakably, Yes. Government can in a very great degree influence the demand for either of the money metals by coining it into money, and conferring on the coin legal tender power.

Let us suppose, for the purpose of illustration, that the value of gold bullion in the market is to-day to that of silver bullion of equal weight as 10 : 1. Let us suppose that at this moment there begin appreciably to operate causes affecting either the supply of silver or the supply of gold, or the demand for silver, or the demand for gold, in such manner and degree as if not withstood would soon bring about the ratio 10.25 : 1—that is, so that one ounce of gold should now command in exchange  $10\frac{1}{4}$  ounces of silver, instead of 10 ounces, as previously. But let us also suppose that at the moment when the ratio of the market stood as 10 : 1, this was by decree of government made the mint ratio—that is, it was provided that 250 grains of silver should be rendered at the mint into coins having the same power in the payment of debts as gold coins containing 25 grains; and that every person should have the right to bring either gold or silver bullion to the mint, and, after only the delay involved in coining the bullion into money, and after only the deduction of so much gold or silver from the mass as would repay the actual cost of coinage, receive back his bullion rendered into coins, having inscriptions and devices expressing their legal tender power, as above. Is there any virtue in such a provision of law to counteract in any degree the force of the natural or commercial causes tending to

produce a departure from the ratio 10 : 1 ? If such virtue resides in the law, will it suffice to keep the price of gold and of silver steady at the ratio of the mint ?

I answer, there is such virtue in the legal provision recited, whether it will prevail to hold the market ratio and the mint ratio steadily together, will depend on the comparative force of the natural or commercial causes operating to produce divergence, and of the legal or political cause operating to withstand divergence. There can be no question that the law can influence the relative demand for the two metals, the only matter of question is whether it can do so fast enough and far enough to offset the effect of the changes in demand and supply produced otherwise.

First, let us inquire precisely into the mode in which the legal tender provision operates to affect the demand for either or both the money metals.

In the case assumed, let us suppose that the causes operating towards divergence are strong and persistent enough to carry the ratio to 10 05. Now, as 05 is to 10, so is .005 to 1, or  $\frac{1}{2}$  per cent. But as  $\frac{1}{2}$  per cent is less than the usual seigniorage, or government charge for rendering bullion into coin, no one will send silver to the mint simply because of that divergence between the mint ratio and the market ratio of the metals. Money of one kind or the other is, however, continually being coined in moderate amount, irrespective of such divergence, merely to keep up the supply. So far, therefore, silver will now be coined. Be it much or little that

is needed to keep up the stock, it will all be silver, since both gold and silver have to pay the cost of coinage, and silver bullion is cheaper, relatively, than gold. So far, the money of the country tends to be made up less largely of gold, more largely of silver. But this operation would be slow, corresponding only to the current waste of the existing stock, and to new demands for money for the uses of trade.

Now, let us suppose that the ratio becomes 10·15 to 1. As .15 is to 10, so is .015 to 1, or  $1\frac{1}{2}$  per cent. If in this situation the seigniorage charge were only 1 per cent, an immediate demand for silver would be created for the sake of taking advantage of the difference between the market ratio and the mint ratio.

A French manufacturer, we will suppose, has contracted to pay \$10,000 for wages and materials, entering into a certain body of goods which he exports to England and sells at a profit for gold. The proceeds he brings back in silver, securing the premium, at the time, on the gold. The silver he sends to the mint to have it rendered into money, with a part of which he discharges his obligations, which by law are payable either in gold or in silver coin, at the option of the debtor. The issue of this amount of silver money will, if the circulation were amply supplied before, induce exportation of a corresponding amount of money, which will, according to "Gresham's Law" (p. 46), be gold money. This will be sold abroad, and the amount placed to the credit of the exporter, to be brought home at a

convenient time in silver, which will be coined at the mint to pay maturing obligations, and will cause a fresh exportation of gold.

The question whether it is a desirable course for a country to pursue to be thus exporting the more valuable element of its monetary circulation, and replacing it by that which is less valuable, brought from abroad, is not at present under discussion. We only inquire here whether government can, by conferring the legal tender power, influence the demand for either metal in such a way as to restrain the tendency to a divergence from the mint ratio.

Precisely this is done in the instance just given. More and more the demand for silver increases, through the operation of the bimetallic system, as the value of silver falls from natural or commercial causes. On the other hand, the use of gold is to a corresponding degree diminished; and steadily the coined gold is melted down and exported in ingots to swell the stock of bullion offered in the foreign market.

The effect of this twofold operation is manifest. Just so fast and just so far as one metal becomes more abundant, and hence relatively cheaper, the disposition to substitute it for the other metal in the payment of debts leads to an extension of demand. Every debtor seeks it that he may discharge his maturing obligations by means of it. This extension of demand acts directly in contravention of the force which is lowering its value. On the other hand, the metal which, by the operation of natural or commercial causes, becomes dearer, at once, by that

fact alone, falls out of demand. No debtor seeks it as the means of paying his debts, as it comes to him in the course of his business, he converts it at a premium into the cheaper metal, as equally good for his purposes when coined into money. This diminution of demand at once operates in counteraction of the forces tending to raise the value of this metal.

"It follows," says M. Chevalier, writing in 1857 of the bimetallic system of his own country, where the ratio in the coinage was  $15\frac{1}{2} : 1$ , "whilst this state of things lasts, that it will be impossible at London, Brussels, Hamburg, or even at New York, or at any other great centre of commerce, for gold to fall much below  $15\frac{1}{2}$  times its weight in silver."

"Whilst this state of things lasts." How long is that? Until the dearer metal is substantially all drawn off. So long as, in any commercial country, the mints are open to both metals at a fixed ratio in the coinage, and any considerable amount of the dearer metal remains, so long this process will continue, and so long as it continues it will be impossible for the cheapened metal to fall in any market of the world far below the value assigned it in the payment of indebtedness in the country which gives the debtor the option of the two metals.

This process of substituting the cheaper metal in the circulation, with its necessary effect of deferring, and in the end diminishing, the fall of that metal which would otherwise result from natural and commercial causes, is not less fully recognized by the English economists.

"The crop of gold," wrote Professor Cairnes in

1860, "has been unusually large; the increase in the supply has caused a fall in its value; the fall in its value has led to its being substituted for silver; a mass of silver has thus been disengaged from purposes which it was formerly employed to serve, and the result has been that both metals have fallen in value together."

Professor Jevons, writing in 1874, under the title "The Equivalence of Commodities," says: "It is upon this principle that we must explain the extraordinary permanence of the ratio of exchange of gold and silver. That this fixedness of ratio does not depend upon the amount and cost of production, is proved by the very slight effect of the Australian and Californian gold discoveries"

And the late Mr. Bagehot, the editor of the London *Economist*, and author of the well known work, "Lombard Street," says of the countries maintaining the bimetallic system: "Whenever the values of the two metals altered, these countries acted as equalizing machines. They took the metal which fell; they sold the metal which rose, and thus the relative value of the two was kept at its old point."

Such frank and full admissions of the efficacy of the bimetallic system contrast strangely with the treatment of the subject by most American writers, who have denied all validity to this system, have demonstrated to their own satisfaction that law is perfectly impotent to influence value, and have treated the advocates of silver circulation with contempt and contumely.

The most conspicuous example of the replacement



of the dearer by the cheapened money metal, under the bimetallic system, is that of France after the Californian and Australian gold discoveries. Prior to 1850, the general circulation of France consisted of silver, gold being too valuable to circulate at the ratio of  $15\frac{1}{2} : 1$ . During the seventeen years of Louis Philippe's reign, gold was coined only on an average of 12,500,000*fr.* annually. Though the Californian production began in 1848, the influence of the new mines was not felt until 1850. Immediately thereafter the bimetallic system of France was subjected to a severe trial.

In 1846, the total production of the world was estimated at \$30,000,000 of gold and \$32,500,000 of silver. In 1852, the annual production of gold had risen to \$150,000,000, while that of silver had risen only to \$42,500,000. When the Californian discoveries took place, the stock of silver in existence was at least one half greater in value than that of gold. Within twenty years these proportions were to be reversed.

The effect was of course to cheapen gold relatively to silver, and hence, under the French law, the coinage of gold began actively. In 1850 it was coined to the value of 85,000,000*fr.*, in 1851, 270,000,000*fr.*; in 1852, 27,000,000*fr.*, in 1853, 313,000,000*fr.*; in 1854, 526,000,000*fr.*, in 1855, 447,000,000*fr.*, in 1856, 508,000,000*fr.*; in 1857, 572,000,000*fr.*, in all, within eight years, 2,721,000,000*fr.*

Coincidentally with this movement, the coinage of silver was checked. For the period 1800 to 1848, the average annual coinage of silver had been about

81,000,000*f*. In 1853, the silver coinage had sunk to 20,000,000*f* , in 1854, to 2,000,000*f* , in 1855,\* it rose to 25,500,000*f* . , in 1856,\* to 54,000,000*f* , in 1857, it sank to 4,000,000*f*

-The effect of the issue of the cheapened metal was naturally to displace a portion of the dearer metal existing in the form of coin, and to cause its shipment to countries not having the bimetallic system.

In 1852, the excess of exports over imports of silver amounted to less than 3,000,000*f* ; in 1853, it rose to 117,000,000*f* . , in 1854, to 164,000,000*f* , in 1855, to 197,000,000*f* , in 1856 to 284,000,000*f* , in 1857 to 362,000,000*f* . In all, from 1852 to 1859, inclusive, 1,127,000,000*f* , computed to be about two fifths of the French stock of silver money.

All this vast exportation had taken place through a premium on silver which ranged generally between one and three per cent Who gained this premium ? Nominally, every Frenchman who possessed a five franc piece might realize the premium ruling at the time on the silver contained in it. Practically, however, the profit was made almost wholly by bankers, manufacturers, and merchants, who stopped the silver in its circulation and replaced it with coined gold. Dealing with the metals in large amounts, it was worth their while to effect the exchange The holders of small amounts, or single pieces, would in but few instances, comparatively, realize the premium. When the silver had thus been abstracted from the circulation and gathered in masses, it be-

\* The years of the war in the Crimea.

came an article of export like any other commodity, and ordinary profits were made by the trade in it.

What was the effect of the operation which has been described upon the gold and silver market throughout the world?

The effect produced was twofold. Gold and silver were held together nearly at the ratio of the French law,  $15\frac{1}{2} : 1$ . The production of gold in the period following 1850 was sufficiently large to have caused a very great fall in its silver value. Such a fall was apprehended by those who did not understand or appreciate the working of the bimetallic system. It was feared that gold would sink to two thirds or one half its former value. A veritable gold panic set in. "Frightened," says Professor Levi, "and not without reason," "at the possible consequences, some countries heretofore anxious to attract and retain gold in circulation, even at great sacrifices, showed a feverish anxiety to banish it altogether. In July, 1850, Holland demonetized the gold ten-florin piece and the Guillaume. Portugal prohibited any gold from having a current value except English sovereigns. Belgium demonetized its gold circulation. Russia prohibited the export of silver, and France, alarmed, but less hasty, issued a commission to inquire into the matter."

All these apprehensions, however, were vain, so long as France kept open her mints to both metals, and silver remained to be exported. As M. Chevalier remarked in the paragraph previously quoted, it was impossible, so long as this state of things existed, that gold should fall anywhere, whether at

London, at St. Petersburg, or at New York, much below fifteen and a half times its weight in silver. The maximum effect produced by the flood of new gold was to change the silver price of that metal  $4\frac{3}{4}$  per cent, and even this effect in any such degree was momentary; gold nearly recovered its price again, the whole permanent effect of the Californian and Australian discoveries being placed by Professor Jevons at not above  $1\frac{1}{2}$  per cent.

The second result of the operation of the bimetallic system, during this critical period, was that gold and silver, thus held closely together by the force of the French law, both declined in value. With the vast increase of the gold supply, it was inevitable that that metal should fall. Without the bimetallic system, gold could have sustained a great fall, while silver would have held its own, or perhaps have risen. As it was, silver and gold sank together, "the depth of the fall being diminished," says Professor Cairnes, "as the surface over which it has taken place has been enlarged."

We have now reached the point where we may inquire what advantages are claimed for the bimetallic system. We have seen that this system is no fiction; that government, by making two metals legal tender for debts, indifferently, at a ratio fixed by law, can profoundly influence the relative value of those metals. But it may fairly be asked, What good is to result from such an exertion of the power of the State? Granting the practicability of such an achievement as holding the two metals absolutely or nearly together for a time, at least, in

spite of natural or commercial causes working to effect a divergence, what is to be gained thereby?

Let us proceed to state the bimetallic claim?

First, the bimetallist asserts that two metals, thus bound together, constitute a better money than either metal by itself could be.

We have seen that the mining of the precious metals has in all ages been a work of highly spasmodic and often intermitted activity. We have seen, moreover, that each metal has its peculiar sources and conditions of supply. The bimetallist, therefore, argues that it is reasonable to anticipate that the variations in production of the one will, in a degree greater or less, offset those of the other. They will not be likely to fall off in their yield at the same time and to the same amount. It would be too much to expect that the maximum production of the one would coincide with the minimum production of the other. But the irregularities of mining fortune could scarcely fail to secure a more equable yield of the two metals taken together than of either one separately.

This assumption, which is in the nature of the case most reasonable, corresponds with the actual course of production. In a certain degree the supply of the two metals has been mutually complementary. Take the present century in illustration. When it opened, silver was in course of rapid production. Three dollars' worth of that metal was taken out to one dollar's worth of gold. Then came the series of South American and Mexican revolts and revolutions, between 1809 and 1829, by which

the Spanish colonies achieved their independence, and then displayed it, in practice by all sorts of political folly and fanaticism. The result was a serious check to the yield of silver. The mining districts became the scene of destructive military campaigns, and still more destructive civil strife. So extensive was the waste wrought by these disturbances that Mr. Jacob estimates that the stock of the precious metals in civilized hands fell off one sixth in the twenty years beginning in 1809. So far as the mines then known and worked were concerned, the deficiency could not have been supplied with silver. But gold came in to fill the void. In 1823 the mines of the Oural Mountains took on a steady rate of increase. About 1830 the gold sands of Siberia became known, which, after 1840, came to yield largely. And now only sixty-eight cents' worth of silver was produced to a dollar's worth of gold, against three dollars' worth of silver at the beginning of the century.

In 1848 and 1851 came the great gold discoveries of California and Australia, and the relative production of the two metals was so far altered that only twenty-seven cents' worth of silver was taken to a dollar's worth of gold. For a few years following 1852 the annual production of gold was between \$150,000,000 and \$180,000,000, while that of silver was only \$40,000,000. From 1861, however, the facts of production began to be slightly more favorable to silver. By 1864 the annual yield of silver had risen to \$50,000,000, and by 1871 to \$60,000,000, while that of gold had gone down, first to \$120,000,000, and then to \$110,000,000. By 1873 came still

a further change. The yield of silver went up to \$70,000,000 ; that of gold fell below \$100,000,000, to \$95,000,000, and even \$90,000,000.

It will appear, from this recital, that the claim of the bimetallist that the production of the two metals considered as a mass is more likely to be regular than that of either alone, is fully borne out by the facts of production during the present century.

The bimetallist may here, retort with great effect upon the monometallist.

The latter alleges that gold and silver, having their separate sources and conditions of supply, are likely to be produced irregularly as compared with each other ; that now gold and now silver will be yielded in excess ; that, consequently, their relative values must fluctuate greatly, and that a concurrent circulation of the two is not possible.

The bimetallist rejoins that the considerations alleged show how illy either metal alone is fitted for its office as a standard of deferred payments, and establish the great utility of so uniting them in the monetary function that the irregularities of the production of one may be in some degree at least offset by those of the other.

The retort is just. All that the monometallist alleges to show the difficulties of bimetallism is equally competent to prove the great advantage of that system, if only it can be established.

This claim to a compensatory action under the so-called double standard is fully conceded by Professor Jevons :

“ Imagine,” he says, “ two reservoirs of water, each subject

to independent variations of supply and demand. In the absence of any connecting pipe, the level of the water in each reservoir will be subject to its own fluctuations only. But if we open a connection, the water in both will assume a certain mean level, and the effects of any excessive supply will be distributed over the whole area of both reservoirs. The mass of the metals, gold and silver, circulating in Western Europe in late years is exactly represented by the water in these reservoirs, and the connecting pipe is the law of the 7th Germinal, An XI, which enables one metal to take the place of the other as an unlimited legal tender."

"At any moment," Professor Jevons remarks, "the standard of value is doubtless one metal or the other, and not both, yet the fact that there is an alternative tends to make each vary much less than it would otherwise do. It can not prevent both metals falling or rising in value, compared with other commodities; but it can throw variations of supply and demand over a larger area, instead of leaving each metal to be affected merely by its own accidents."

The second advantage which the bimetallists claim for their system is that, by the establishment of a normal price for each of the two metals thus joined in the money office—a normal price of gold in terms of silver, a normal price of silver in terms of gold—a Par-of-Exchange is created and sustained between the nations using gold and the nations using silver.

This claim, again, is one that can not be gainsaid, it is only the degree of importance to be attached to the result which can be matter of question. We have seen that, so long as any one nation keeps its mints open to both metals at a fixed ratio, and retains a considerable quantity of the dearer metal, the cheapened metal can never fall far below



that ratio. It may go below by one, two, or three, or, possibly, for the moment, four or five per cent, but it is impossible that it should break loose, and be governed simply by its own conditions of production, so long as the substitution of it for the dearer metal is going on in any country. This, we have seen, the European monometallists concede. The natural consequence of this the bimetallists claim to be of vast importance to the trade and production of the world. A nearly stable monetary relation, a proper par-of-exchange, is established between the portions of the world using silver and the portions using gold. The merchant of a silver country exporting his goods to a gold country can always compute precisely or approximately what the gold he obtains by the sale of his merchandise will be worth in silver. He can thus make his arrangements for business, and his contracts for labor and material, with confidence. In the same way the merchant in a gold country, exporting his goods to a silver country, runs no risk of loss through fluctuations in the comparative value of the metals in which he buys and in which he sells, respectively. The two have a nearly fixed relation, and can thus, with but a small margin, if any, be rendered into each other for the purposes of international exchanges. The gain to commerce and, through commerce, to industry, resulting herefrom, is asserted by the bimetallist to be very great. Imagine, he says, the condition of international trade, for the course of this century, had a normal price of silver not existed by virtue of the French law. Had all the countries of the world

been either gold countries or silver countries in 1848, had there been no countries making both gold and silver legal tender indifferently for debts, what would have been the fall of gold under the tremendous increase of production in the fifteen years that followed? How great the disturbances of exchange that would have resulted from the successive plunges downward of the cheapened metal, rejected now by one State and now by another!

Please to recall the statement already made, that, at the beginning of the century, three dollars' worth of silver was produced to one dollar of gold, while in 1852 only twenty-seven cents' worth of silver was produced to one dollar of gold. Can it be questioned that, but for France serving as the *parachute*, to use M. Chevalier's phrase, to break the fall of the metal produced in such astonishing profusion, the trade between the two great divisions of the world, the gold group of States, and the silver group, must have received a succession of terrible shocks, and, even after the worst was over, have remained subject to frequent and extensive fluctuations of exchange introducing into all commercial transactions great uncertainty and large contingencies of unearned gains and undeserved losses, than which nothing can be more prejudicial to industry?

•Such is the bimetallic claim. As to the nature and direction of the immediate effects produced by thus uniting the two metals in the coinage, there can be no intelligent question.

I said, the nature and direction of these effects. The monometallist may, not irrationally, dispute

the importance attached to the results reached ; he may urge that they are obtained at too great a cost to the individual nation or nations sustaining the burden of thus creating and preserving a par-of-exchange between the gold countries and the silver countries ; he may argue that, should the excessive production of one metal be protracted through a considerable period, the stock of the dearer metal would be completely drained out of the bimetallic countries, the bimetallic system would be no longer effectual, and the natural and commercial causes tending to produce divergence between the values of the two metals would thereafter operate unchecked

All this is within the limits of reasonable dispute.

## CHAPTER VII.

### MODERN BIMETALLISM.

WE have gone to the extreme verge of neutral territory in the great dispute which has been raging for years, and which as yet shows no signs of dying down, respecting the relation of gold and silver in their use as money. All beyond is the field of active controversy. Before we leave this vantage ground, let us pause to note precisely the point we have reached.

We have seen that there are natural and commercial causes which may operate to produce either an incessant fluctuation in the relative value of silver and gold, or a wide and increasing divergence, from year to year, through a long period, from the ratio of exchange existing between the two metals at the commencement of the period. So far are the sources and conditions of supply of the one different from those of the other that, notwithstanding the influence of the durableness of the metals in giving steadiness of value to either by turns, and hence to the two in their relation to each other, it would be in the highest degree unreasonable to assume that the ratio of exchange between gold and silver would remain unaltered through any considerable term of years. The annual or monthly variations

may take the form of oscillations, now on one side and now on the other of any historical ratio, or they may be cumulative on one side of that ratio, producing a divergence increasing from month to month, and year to year, but variations in some degree, in some direction, are to be expected under the unrestrained operation of causes influencing the demand for, or the supply of, each metal.

The conditions, natural and commercial, which determine the ratio of exchange of the two metals being such, we have seen that government may enter, and, by making the two indifferently legal tender for debts at a ratio fixed by law, may, for the time, counteract the operation of any and all forces tending to produce divergence. So long as any country establishing such a principle holds a considerable amount of that metal which, under the natural and commercial conditions of supply and demand prevailing at the time, tends to become the dearer of the two, it is impossible that the cheapened metal should there, or in any market, fall far below that ratio. By the force of the bimetallic law, the substitution of the cheapened for the dearer metal will at once begin; and so long as that continues, the divergence of the market ratio from the mint ratio can never be wide. Why should any one in London or New York pay much more than fifteen and a half ounces of silver for an ounce of gold, when gold can, at any time and in any amount, be obtained for silver at the rate of fifteen and a half in Paris?

This operation of the bimetallic system can not be denied, but there is ground for dispute as to the

degree of the advantages to result, and as to the cost at which those advantages are to be obtained. The monometallist, or advocate of the so-called single standard, is disposed to disparage the benefits to be expected, and to magnify the expense of this system. He points to the fact that the two metals do not actually circulate in the same country, at the same time, in any considerable degree, that it is always the one metal or the other which is used as money, according as the market ratio diverges to the one side or the other of the mint ratio, while the coin made from the dearer metal acquires a premium, and is exported or hoarded. Hence it is said bimetallism really means the use of but one metal in a country at a time. It is not a double standard, but an alternate standard.

To this the bimetallist replies that the concurrent use of the two money metals, side by side, in the same markets, is a matter wholly of indifference. The merit of the bimetallic scheme does not depend on this at all.

The object of bimetallism is, by joining the two metals together in the coinage, at a fixed ratio, to diminish the extent of the fluctuations to which the value of each would be separately liable, by generating a compensatory action between the two, by which the cheapening metal shall receive a larger use, while the appreciating metal drops partially out of its former demand, thus making the two fall together, if there must be a fall, or rise together, in the opposite case, or, conceivably, making the ten

dency of one to fall precisely counteract the tendency of the other to rise.

Thus we may suppose four successive cases to illustrate the working of this principle.

The first is, where the demand for the use of either metal in trade remaining the same, a large increase in the supply of one metal, A, takes place, the supply of the other, B, remaining unchanged. In this case, without the bimetallic system, the value of A would tend to fall rapidly through a considerable space, while the value of B would stand fast. With the bimetallic system, the joint supply of the two metals would be applicable to meet the joint demand for the two. Now, as the joint supply has been increased without any change in the joint demand, there must be a fall in value, but the fall will be in the two indistinguishably, except for a slight degree of delay and friction in exchange. Both will fall, but the depth of the fall will be diminished as the surface over which it is to take place has been enlarged.

The second is where, the demands of trade for both metals remaining the same, a diminution occurs in the supply of A, while the supply of B remains unchanged. Here, by the operation of the same principle, a rise in the value of money will take place, since the joint supply has been reduced without any corresponding change in the joint demand. The rise will be a rise of the two metals indistinguishably, the height of the rise being diminished as the surface over which it is to take place has been enlarged.

The third case is where, demand remaining the same, the supply of both metals undergoes a change in the same direction, either of increase or of diminution, at the same time. In this event, the fall or rise will again be of the two indistinguishably, the point reached being a mean between the points which would have been reached by the two severally.

The fourth case is where, demand remaining the same, the supply of the two metals undergoes a change at the same time, but in opposite directions, A through diminution, B through increase. In this case, the opposite tendencies will counteract each other. If of equal force the value of money will be stable, if of unequal force, there will be movement in the direction of the stronger to the extent of the difference between the two. Instead of one falling and the other rising in value, the change will be wrought in the two indistinguishably.

It will appear from the foregoing statements that, under the bimetallic system, the value of money will be liable to vary more frequently than under the monometallic system. That is, a change in respect to either constituent of the money mass will produce a change of value; and it is apparent that the chances of change are greater with two constituents than with one. On the other hand, the variations under the bimetallic system are likely to be less extensive. Indeed, it is a matter of practical certainty that they will be far less extensive than they would be under the monometallic system, whichever metal were adopted as the standard of deferred payments.



But, again, the monometallist interposes the objection that the bimetallic system is only to be supported at great expense to the States maintaining it; that they lose by the exchange of the dearer for the cheapened metal, even though they acquire a certain premium in doing so, and that sooner or later the stock of the dearer metal in the bimetallic countries will become exhausted, and the system will collapse, the price of the two metals no longer being held closely or nearly at the former ratio by the possibility of exchanging them at that ratio, freely, in any amount.

How far a bimetallic country loses by the alternation of the metals in circulation, as now one and now the other becomes the cheaper at the coinage ratio, is a nice question.

That the service rendered to the commerce of the world by establishing a normal price for each metal in terms of the other, and thus creating and maintaining a par-of-exchange between gold countries and silver countries, is worth far more than its cost, seems to me beyond a rational doubt. It would, in my view, be as reasonable to doubt whether London Bridge repays the expense of its erection and repair. Were the cost of this bimetallic service, whatever it is, properly assessed upon and collected from each commercial nation of the world by turns, according to the proportion in which it derives advantage therefrom, I think it might safely be said that no one of these nations would sustain a single other charge which so fully justified itself in the return it made, whether that other charge were for

works of construction, for the administration of justice, or for any other strictly necessary purpose

But there is no assurance that the cost of the bimetallic system will be thus equitably assessed. If the whole charge of erecting and repairing London Bridge were thrown upon the merchants of the two or three streets nearest thereto, while yet the whole population were allowed to use the bridge, free of toll, there would not unnaturally arise a strong sense of injustice on the part of those who bore this burden for the public benefit, it might even become a question whether the undoubted advantages derived by them from the use of the bridge repaid the disproportionate expense which it caused them. If the maintenance of the bimetallic system involves a certain burden on the nations which sustain it, as I am disposed to think is the case, it fairly becomes a question whether those individual nations are compensated for bearing the whole expense of the service by their share of the advantages resulting therefrom to the trade and industry of the world

That England could well have afforded, throughout the present century, to maintain this system for her own benefit, whatever it cost, even though other nations profited by it in greater or less degree, is clear as the light. That France, a country of far less extended international trade, has been compensated for bearing so large a part as she has done of the burden of maintaining a par-of-exchange for the commerce of the world, by her share of the resulting advantages, I make no question; but it must be admitted to be fairly a matter of dispute.

On such a point it is evidence of no small value that the French people themselves and the French statesmen, though singularly acute and sagacious in matters of finance, have apparently not doubted that the bimetallic system was for the interest of their country. Certain of the French political economists—MM Chevalier, Levasseur, Bonnet, Mannequin, Leroy Beaulieu—from their theory of the subject have held that France lost by her policy in this respect; but the financiers of that remarkable nation held firmly to the “double standard” from 1785 to 1874. And though France at the latter date restricted her silver coinage, and two years later stopped it altogether, it was not done as the result of any change of views. Partly it was from deference to her monetary allies, Belgium and Switzerland, but chiefly because the demonetization of silver by Germany and the sale of the discarded metal of that empire brought a sudden strain upon the bimetallic system which threatened to break it violently down. Hence France closed her mints to silver, but not with any confession that her policy had been erroneous under the conditions previously existing; not from any desire to abandon that policy should the future offer conditions which would admit the resumption of bimetallism. It was the declaration of M. Léon Say, the French Minister of Finance, the President of the International Monetary Conference of 1878, that France, in suspending the coinage of silver, had taken no step towards the single gold standard, but had placed herself in a position to await events, a position which she would not

leave till good reasons for action should appear, and then most probably to re-enter on the system of the double standard

It may be that France will not resume the free coinage of silver. There is too much reason to fear that the silver States have been so weakened by the defection of Germany, and the gold States so strengthened by her accession, that France and her monetary allies will no longer be able to mediate between them, and secure a par-of-exchange between the gold group and the silver group, it is even probable that the Latin Union, after holding on to silver for a while against an increasing pressure, may at last be compelled to let go, and send their stock to join the discarded metal of Germany and the Scandinavian States, in India and China, but this result will afford no justification to those whose ill-considered recommendations and hasty action broke down the system which so long and so well subserved the highest uses of international trade.

France has shown herself abundantly capable of caring for her own financial and industrial interests. If she was willing to carry on the bimetallic function for the benefit of all christendom, aye, and of heathendom to boot, other nations might at least have allowed her to do so. Perhaps France understood her own interests better than those who showed such an unselfish concern for her welfare, such a benevolent unwillingness to have her sacrifice herself for the good of mankind. Certainly the results of the past five years have shown that she understood the gen-

eral interest of nations much better than did the financial reformers of 1871

The objection that the stock of the dearer metal in the bimetallic States must, if the drain be indefinitely continued, become after a while exhausted, and that the system will then lose all its efficiency in holding the two metals together, is unquestionably valid, but an altogether unreasonable weight has been assigned to it in the discussion of bimetallism as a scheme of practical statesmanship

If we look at almost any treatise written from the monometallic point of view, we shall find that it is taken as conclusive against that scheme, that conditions of supply and demand can be assumed for the two metals separately which would result in the complete exhaustion of the dearer metal, and the consequent loss of all virtue in the bimetallic scheme. The bimetallist is confronted with a series of adverse conditions, taken each at its maximum and piled one above the other without the least regard to the modesty of nature, or the experience of the past, and is then challenged to say whether the system he proposes could be maintained under such circumstances. If he is candid enough to admit that bimetallism would fail there, it is taken for granted that the whole question is disposed of.

Now, human institutions are not to be judged of, and approved or disapproved, by such methods. The folly of reasoning like this would be seen at once were it applied to ordinary political matters. No government on earth could stand against one fourth or one tenth of the elements of hostility

which might conceivably be arrayed against it. Mankind do not, therefore, refuse to form governments.

Bimetallism is a political institution for practical ends, and is entitled to be judged with reference to reasonable probabilities. It may claim the benefit of the chance that adverse conditions will be offset by conditions favorable, and that the adverse conditions will not prove so severe at the start as they may be conceived, and that their force will be more quickly spent than might be feared.

It would be perfectly legitimate ground on which to establish European bimetallism, that the French system, with so little of support from other States, passed within a quarter of a century through the three successive shocks of the gold discoveries of Siberia, the gold discoveries of California, and the gold discoveries of Australia, and yet was not brought to the ground.

With Germany, France, and England joined in a monetary union, no changes reasonably to be anticipated in the conditions of supply of the one metal or the other would succeed in moving the market ratio far apart from the mint ratio thus supported by maintaining over so wide a surface a legal equivalence between the two metals in payment of debts.

And, moreover, while bimetallism is entitled to be judged like any other political institution, with reference to the reasonable probabilities of the future, the allowance which requires to be made for error and extraneous force is less than in most political institutions, inasmuch as the failure of bimetallism involves no disaster to industry or society.

When an engineer designs a bridge which is intended to sustain a weight of eighty tons, he introduces a "factor of safety," say three or five, and makes the bridge strong enough to bear two hundred and forty or four hundred tons. The greater the calamity which would result from the breaking down of the bridge—the deeper the chasm which it spans, the swifter the torrent below—the larger the factor of safety. With many political institutions, likewise, the consequences of failure would be so disastrous that the statesman seeks to introduce a high factor of safety, but in the case of bimetallism no catastrophe whatever is to be anticipated, even in the event of failure. At the worst, after the drain of the dearer metal, in consequence of changes in the conditions of supply, is completed, the bimetallic country is simply in the same position with the countries of the single standard using the cheapened metal. While the process of substitution is going on, it sells the dearer metal at a premium; when the process is over, it is no worse off than it would have been had it originally selected as its sole money of full legal tender power the metal which it has bought at a discount, and which other countries, perhaps its immediate neighbors, are still using. It is not the case of a country seeking to reject the cheapening metal, and to supply its place with the metal which is continually becoming scarcer and dearer, as Germany has been trying to do since 1873. There is all the difference, in the two cases, between going down hill and going up hill.

Not only is no catastrophe involved in the failure

of bimetallism through the exhaustion of the dearer metal, but it is always in the power of the government to arrest the drain at any point without shock.

Thus, in 1874, France and her monetary allies, seeing the prospect of a considerable drain of gold through the importation of the discarded and cheapened silver of Germany, and having decided, whether wisely or unwisely, not to prevent that drain, restricted the coinage of silver without repealing or suspending the law which made gold and silver legal tender indifferently at a fixed ratio. Two years later, finding that the forces operating to lower the value of silver were powerful and persistent, the coinage of silver was peremptorily stopped.

Can one point to any sign that France has suffered any special injury to her trade and production from this act? Germany, which, during the same period, was passing, or trying to pass, from silver monometallism to gold monometallism, has been through a crisis of appalling severity, while France has enjoyed a greater degree of prosperity than any other principal country of Europe. I do not say that the different financial and industrial experience of France and Germany has been due wholly or chiefly to the difference in their monetary systems; but the contrast certainly ought to dispel every notion that if a country enters on a bimetallic course it does so at the risk of disaster.

We have seen what the bimetallic system will effect so long as it continues in practical operation—*i. e.*, not so long as the law making both metals indifferently legal tender remains on the statute book, but so long



as the bimetallic countries have any considerable quantity to spare of the metal which, under the conditions of supply, tends to become the dearer of the two.

We have seen that, while this state of things lasts, the market ratio can not depart far from the mint ratio ; that thus a normal gold price of silver and a normal silver price of gold are established, affording a par-of-exchange for the commercial intercourse between the gold group of States and the silver group, with the additional result that the mass of money metal, thus formed by the legal equivalency of a certain number of ounces of silver to one ounce of gold, fluctuates less extensively in purchasing power than the two metals separately would, on the average, fluctuate.

We have seen that a State, or group of States, may perform this beneficent function without encountering any liability to disaster, even in the event of a failure, through a drain of exceptional violence and duration, to maintain the system in operation ; that even in case the bimetallic State, or group of States, is, as the result, brought to monometallism with the cheapened metal, it will be no worse off than the States which started with monometallism with that metal.

We have seen, however, that the system is kept up at a certain cost, economically, through the occasional substitution, either in part or wholly, of one metal for the other in the circulation. This cost may be variously estimated, but it, in no proper view of the case, constitutes a great tax upon pro-

duction or trade. It is not measured by the divergence of the market ratio of the metals in other countries from the mint ratio in the bimetallic States, because the latter themselves get the premium on the dearer metal when it is exported. It is difficult to afford any measure of this cost or burden of the bimetallic system, but it seems evident that the process of substitution which has been referred to must be regarded as involving some degree of loss or friction.

We now have to note further that every additional State which joins the bimetallic group, having the same mint ratio between gold and silver, does not only share the cost or the burden with those already in the system, but diminishes the aggregate cost or burden to be borne, and this, not in a slight, but in an important degree, so that should the monetary league become general, the total cost or burden to be divided among the many allies would be inappreciable; while, should the system come to embrace all commercial States, there would, in theory, be no burden at all to be borne by any one.

Thus let us suppose the commercial world to be divided into sixteen States, A to P, inclusive, the first six having the single gold standard, four, G to J, the so-called double standard of gold and silver, say at  $15\frac{1}{2} : 1$ , the remaining six States having the single standard of silver, thus:

A, B, C, D, E, F, (G, H, I, J), K, L, M, N, O, P.

It is evident that, in the case of a change in the conditions of supply tending to cheapen silver relatively to gold, the new silver would pass into the

countries of the double standard, G to J, be there exchanged for gold at the rate of  $15\frac{1}{2} : 1$ , with some small premium as the profit of the transaction, and the gold would go to the gold countries, A to F, in settlement of trade balances.

The rapidity with which this substitution of silver for gold will go forward will depend, first, on the force of the natural causes operating to cheapen silver, and, secondly, on the force of the commercial causes operating to maintain or advance the value of gold. The length of time during which the drain of the dearer metal can be sustained without exhaustion will (given the rate of movement) depend solely on the stock of that metal existing in the bimetallic states jointly when the drain begins.

But chief among the commercial causes operating to maintain or advance the value of gold is the exclusive power with which gold is invested by law to pay debts within States A to F; while the stock of the dearer metal available to sustain the drain described is made up, not of all the gold in the sixteen States A to P, or in the ten States A to J, but only of the gold in the four bimetallic States, G to J.

Hence we see that for every gold State which adopts the "double standard" the amount of gold available, in the case of a cheapening of silver, to meet the drain of the dearer metal (on which the virtue of the bimetallic system depends) is increased; while the demand for gold in preference to silver at  $15\frac{1}{2} : 1$  (the only cause which threatens the stability of the bimetallic system) is, in just so far, diminished. On the other hand, every silver State that adopts the

“double standard” strengthens the bimetallic system in the case of a cheapening of gold

Let us suppose the sixteen commercial States to be divided as four gold States, eight gold and silver States, and four silver States, as follows.

A, B, C, D, (E, F, G, H, I, J, K, L), M, N, O, P.

We see that the bimetallic system is now not twice as strong merely, as in the case first assumed, but many times as strong, since not only is the amount of the dearer metal (whichever that may at the time be) subject to drain greatly increased, but the demand for that metal, in preference to silver at  $15\frac{1}{2}$  1, now comes from four countries only, instead of six, as formerly. The transfer of still another State from each of the two single-standard groups would vastly increase the stability of the bimetallic system, A, B, C, (D, E, F, G, H, I, J, K, L, M), N, O, P. Not only would the base of the system be broadened by bringing the dearer metal of ten States, D to M, under tribute in the event of changes operating on the supply of either to affect its value; but the force of the causes threatening the equilibrium of the system would be reduced, since the demand for the dearer metal would now come from only three States: A, B, C, in the case of a cheapening of silver relatively to gold; N, O, P, in the case of a cheapening of gold relatively to silver.

Bring still another State from each group into the monetary union, and the danger of a breaking down of the system, under any change in the conditions of supply which it would be reasonable to anticipate, almost disappears.

A, B, (C, D, E, F, G, H, I, J, K, L, M, N), O, P. Twelve States now supply the dearer metal ; only two States will take it in preference to the other at the ratio of the mint. Those two States—whether A, B, or O, P—can not take the dearer metal indefinitely. They will soon be surfeited. A further increase of money in them would only be followed by a fall in its value, which would soon proceed so far as to bring the metals together again. What the one metal would tend to lose in value through increase of supply, the other would tend to lose through diminution of demand.

This is the Modern Bimetallic Scheme advocated by Wolowski and Cernuschi in France, Malou and de Laveleye in Belgium, Mees and Vrolik in Holland, Schneider in Germany, Haupt in Austria, Seyd and the Liverpool writers in England, Horton, Nourse, and George Walker in the United States.

It differs widely from the plan of the so-called "double standard," which was pronounced impracticable by Locke, Adam Smith, and Ricardo. Not the smallest presumption against the reasonableness of this scheme is created by the fact that eminent economists of the past century, and of the first half of the present, declared in favor of the single standard, whether of gold or of silver. Those writers contemplated a condition of international relations in which any thing like general and permanent concert of action, in establishing and maintaining a ratio between the metals in the coinage, would have been wholly beyond reasonable expectation.

In this, the present time contrasts strikingly with

any that has preceded it. It is the age of compacts, conventions, and international alliances. We have conventions relating to the usages of warfare, we have patent-right treaties and agreements respecting trade-marks and the extradition of criminals. We see all around us in successful operation a postal union, embracing all civilized nations, and extending even to some of doubtful civilization. The pioneer at Dead Man's Gulch can send his letter for five cents to almost any region of the earth, whether to New Zealand or to Siberia. And this system, involving much of detail, extensive administrative machinery, and large pecuniary interests, is maintained by more than a score of States, with no friction or jealousy, so far as the public are aware, threatening its continuance.

A general or universal system of bimetallism would involve no machinery, no international accounts, no detail whatever. The simple agreement of governments to coin at a certain ratio would be sufficient for all the objects that have been discussed. If unification of coinage, identity of money-pieces, and mutual acceptance of coins by the several nations forming such a monetary league, were to be added, some machinery for the redemption of worn pieces might require to be brought into existence; but this is not a necessary feature of successful bimetallism, which would be entirely compatible with the retention by each State of its own devices and denominations, and with the exchange of moneys as at present effected.

This altered condition entirely destroys the au-

thority of the judgments pronounced by Locke, Smith, and Ricardo, who have been cited against the system of the so-called double standard. There is nothing to show that one of those writers, had he lived in these days, might not have advocated an international monetary union for maintaining the concurrent circulation of the two metals ; just as not one of the writers whom I have named as advocates of bimetallism, would propose the union of the two metals at a fixed ratio in the coinage, by a single State for itself alone.

The question of securing the co-operation of independent States to any end is a political—not an economical—question—that is, the desired object is to be attained by the action of governments, moved by various considerations and interests, and not by the natural working of the laws of trade.

In 1871 Germany, just then unified as the result of wars with Austria and with France, took the initial steps for passing over from silver monometallism to gold monometallism. How far this action was due to prejudice against the bimetallic system as French, how far to the imperialist ambition to supersede the old State coinages of silver by a new coinage of gold, how far to purely economical considerations, it is not our business to inquire here.

In 1871 the financial situation of Europe was as follows : Three states—Great Britain, Portugal, and Turkey—had the so-called single standard of gold, but of these the last had a circulation, in fact, of debased metal and irredeemable paper. Another group of States, comprising all of the present em-

pire of Germany and the three Scandinavian States, together with Holland and Austria, had the single standard of silver. Of these, Austria had a circulation, in fact, of irredeemable paper. A third group of States, comprising the so-called Latin States of France, Belgium, Switzerland, and Italy (having the ratio,  $15\frac{1}{2}$  1), with Greece, Russia, and Spain, had the so-called double standard of gold and silver. Of these, however, the last four had a circulation of irredeemable and greatly depreciated government paper, like Austria and Turkey, while the notes of the bank of France were at the time, in consequence of the German war, inconvertible into coin, though at a merely nominal discount, the bank holding large reserves of metal, and occupying a position of great commercial strength. On this side the Atlantic, the United States had the "double standard" (at 16 1) established by law, but a circulation, in fact, of irredeemable paper—the greenbacks of the Secession War

<i>Gold States.</i>	<i>Gold and Silver States.</i>	<i>Silver States.</i>
Great Britain,	France,*	Germany,
Portugal,	Italy,*	Sweden and Norway
Turkey,*	Belgium,	Denmark,
	Switzerland,	Holland,
	Greece,*	Austria.*
	Russia,*	
	Spain,*	
	United States *	

Notwithstanding the weakening of the bimetallic group through the suspension of specie payments in so many States, as the result of wars of unification

\* Irredeemable paper circulation.



or wars of conquest, the bimetallic system still remained in sufficient vigor to keep the market ratio between gold and silver close to the mint ratio of the Latin States—that is  $15\frac{1}{2} : 1$ , or about  $61d$ , British money, for an ounce of British standard silver,  $\frac{37}{100}$  fine. Gold had been so far cheapened by the discovery of the California and Australia mines that it formed the greater part in value of the actual circulating medium of the bimetallic countries, and was at a discount of one, two, or three per cent in comparison with silver; but the bimetallic system had for more than twenty years kept gold from being so far cheapened as to drive all the dearer metal out of the countries of the “double standard.” Silver was still to be had in indefinite quantity in the Latin States at a slight premium over  $15\frac{1}{2} : 1$ , and so long as this continued, gold and silver could not break apart, and come to be governed by their separate conditions of supply and demand. The bimetallic system was still strong enough to establish a normal price for silver all over the world, and thus to maintain a par-of-exchange between the gold countries and the silver countries. If England wanted silver to send to India, she was always sure of getting it at very nearly  $15\frac{1}{2} : 1$  by sending her gold to France. If Germany had to pay gold in England, she was always sure of getting it at close upon the same ratio, by sending her silver to France. The mints of the latter country were open to both metals, and rendered them indifferently into coin having debt-paying power, at the ratio fixed by the law of 1803.

In this situation, the action of Germany between 1871 and 1873, which has been narrated, proved to have the most momentous consequences.

That country had been the greatest buyer of silver in Europe. All the customary demand from this source was at once stopped. Not only so, but, as silver was thereafter to be used only as small change, Germany entered the market as a seller of silver, offering her discarded metal by hundreds of millions. Thus, in a market where demand was abruptly checked, was the supply suddenly and vastly increased. On the other hand, Germany entered the gold market as a buyer to an even greater extent, bringing a vast increase of demand into a market where the supply, owing to the exhaustion of many mines, had already fallen off from an annual yield of \$150,000,000 to one of only \$90,000,000.

Moreover, Germany in this course carried with her, by an almost irresistible attraction, the Scandinavian States, Denmark, Sweden, and Norway, her natural financial allies, while Holland at once threw herself into a defensive and expectant attitude, closely restricting the coinage of silver and preparing herself for contingencies.

So heavy a reinforcement of the gold States, so great a weakening of the silver States, so vast an accumulated mass of silver subject to immediate sale, so great a strain on the gold market from the new German demand, manifestly were fraught with peril to the bimetallic system. France and her allies had held the balance between the two groups, throwing so much weight as was needed—now into

the gold scale, now into the silver scale, and thus preserving nearly an equivalency between them. The difficulty of keeping up the system, the danger of its ultimate failure, were increased by the transference, bodily, of all Germany and Scandinavia to the gold side. Gold, hitherto (since 1851) the cheaper metal at 15½ : 1, now threatened to become the dearer, and, with so few States remaining to take silver, and so many States demanding gold, the strain on the bimetallic system was likely to be severe and protracted. The statesmen of France and Belgium lost heart, and in 1874 limited the silver coinage. Two years later, finding the forces operating to send down the value of silver to be powerful and persistent, the Latin Union, to which Greece had in 1868 acceded, stopped the coinage of that metal altogether.

Now see what followed this closing of the French mints to silver; and, by the consequences, measure the force which the bimetallic system had previously exerted in holding the metals together.

The mean annual rate of exchange, by weight, of silver had been to one ounce of gold—in 1867, 15 57 ounces; in 1868, 15·60 ounces, in 1869, 15 60 ounces; in 1870, 15 58 ounces; in 1871, 15 58 ounces; in 1872, 15 63 ounces.

In 1873, the silver price of gold fell to 15·92 : 1; in 1874, to 16 17, in 1875, to 16 58, in 1876, to 17 84, while in July of the latter year it fell to 20 17.

The two metals had for seventy-five years been held together by a tie which did not allow even the floods of Californian and Australian gold, un-

precedented in the history of the world, to move the silver price of gold permanently more than  $1\frac{1}{2}$  points in 100, which did not permit their relative value to change greatly between the time when three dollars in silver was produced to one dollar in gold, and the time when one dollar in gold was produced to twenty-seven cents in silver. Yet no sooner was the tie snapped, this purely legal arrangement broken up, than gold and silver rushed apart with a violence which in three years caused a maximum variation of 1 in 4.

In the face of such facts, the monometallists of this country have insisted that law was perfectly impotent to affect the value of the money metals, that the change in the silver price of gold from 15.63 in 1873 to 20.17 in July, 1876, was due to natural and commercial causes, that the traditional relation of the two metals, which had borne the Siberian, Californian, and Australian gold discoveries, with so little of immediate shock and permanent change, had given way at last under the yield of the silver mines of Nevada!

What have been the immediate effects of the German demonetization of silver?

First, the destruction of a Par-of-Exchange between gold countries and silver countries. France, compelled, as she deems herself, to keep out the flood of discarded metal, no longer sells gold for silver, silver for gold, at a fixed ratio. The consequence is that no merchant in a silver country selling to a gold country, no merchant in a gold country selling to a silver country, knows for how much

of the metal which forms the money of the country to which he exports he must sell his wares in order to make himself good for the metal which he has expended at home in producing or purchasing them.

The British merchant who to-day sells to Calcutta, Hong Kong, or Mexico, may do all that depends on him with the highest wisdom and skill; he may buy the right sort of goods, and buy them at a bargain, ship them in the proper season to the best market, sell them at high prices, and bring the goods safely home to Liverpool, yet a fall in silver between the sale of the goods and the receipt of the proceeds may strip him of all the profits of his venture, of all the fruits of the year's business, or even seriously impair his stock.

So far I am advised, the utmost range of the gold price of silver from the beginning of the century down to 1873 was inside 4*d* an ounce. In the three years following the German demonetization we saw silver run through a range of 14*d* an ounce. Prior to 1873 there were periods of two, three, or four years when the greatest fluctuation did not exceed a penny in the ounce. Since 1873, fluctuations of greater extent have been of almost monthly occurrence.

Fluctuations like these introduce into trade the elements of gambling. And this condition of things is certain to be perpetuated in time, if not aggravated in degree, should the system which for nearly one hundred years maintained a par-of-exchange between gold countries and silver countries not be re-established. Already the result has been to involve commerce between the two great divisions of

the world in all the embarrassments which beset the commercial intercourse of nations paying specie with nations having an inconvertible, and hence fluctuating, paper money

And note the gratuitousness of all this! Was this failure to sustain the beneficent function which so long had given stability to trade and production due to the refusal of France and her allies to continue this great service to mankind? Did France say, We have carried this burden as far as we will; you may now take your turn at the yoke, or go without the advantages of a par-of-exchange between Europe and Asia, between the West and the East, between the gold group and the silver group? In no sense whatever. France never declared herself unwilling to continue this office. France to-day, through her highest official organs, asserts her desire to resume the bimetallic system

The destruction of the normal price of silver and of a consequent par-of-exchange between silver States and gold States was the deliberate work of the two States which had most largely profited by it—England, the greatest gold State of the world, Germany, the greatest silver State. England in 1816 demonetized silver, and since that date her economists and publicists have not ceased to preach gold monometallism, and sneer at bimetallism as illogical and impossible in practice. When, in 1867, the first International Monetary Conference proclaimed its crusade against silver, the British Chancellor of the Exchequer, Mr. Robert Lowe, congratulated Parliament and the country on the fact that Europe was at

last preparing to follow in the course which England had marked out fifty years before .

How changed the note of England to-day, as the system to which her ill-considered action gave the first blow lies in ruins around her, and British trade is, all over the world, subject to violent and incessant fluctuations of exchange which have in so short a time undermined many of her strongest houses, contributing in no small degree to the present feeling of general alarm !

But even greater was the fatuity of Germany, which in 1873, against abundant warning, consummated the series of acts which led to the suspension of the French law. A great nation of poor people, with a production for export probably less characteristic than that of any other principal country of Europe, with small reserves of capital and little grip on the markets of the world, Germany, in the arrogance of her military successes, broke down the barrier which had given a high degree of security and stability to universal commerce, and from which none had derived more advantage relatively than herself.

The history of the century will be searched in vain for a political blunder of equal enormity.

The second immediate consequence of the German demonetization has been an enhancement of the purchasing power of gold, now left, throughout pretty much all Europe, to perform the whole office of money which six years ago was performed by a money-mass composed both of gold and silver. The latter having been thrown out of its use as full-val-

ued money, and remitted to the purposes of small change or banished to the East, the value of the former has, by a necessary consequence, risen greatly, even in the few years that have intervened since this disastrous act was accomplished

The effects upon industry and trade of a diminishing money supply, in enhancing the burden of debts and fixed charges, and in disparaging the profits of business and hence reducing the motives to production, have been discussed so much at length that we need only inquire here as to the fact

Two notable pieces of testimony on this subject have been given to the public within the past few weeks. In an article in the January number of the *Princeton Review*, Professor Thorold Rogers, of Oxford, in discussing the causes of the present general disturbance of commerce, writes as follows :

“ The first cause in importance, the most general, and, in all probability, the most enduring, is the rapid rise in the economical value of gold

“ While the area of civilization is widening, and, therefore, the demand for an adequate currency is being extended, the most populous State of Europe has abandoned a silver for a gold currency, and has had, as a fruit of a successful war with France, an exceptional power of attracting gold to itself, with singular success, indeed, but to the incredible misfortune of its people Germany has effected a monetary revolution on the grandest scale, and has beggared its own industries

“ Taking into account the growing intercourse of civilized nations, and particularly the sensitiveness which they feel at any event which may check the activity or derange the machinery of trade and production, it appears that at no time has the drain on the existing stock of gold been so sharp and rapid as at present.”



On the 28th of December the London *Economist*, in a remarkable article on the causes of the present depression of prices, which that journal finds to be greater than after the panic of 1857, or that of 1866, gives as the principal causes the following

1st "There has been a diminution in the supply of gold."

2d "There has been a marked increase in the demand for gold. The effect of the adoption of a gold standard in Germany, as well as in some other European countries of minor importance, has been, as we have clearly seen, to depreciate the value of silver, measured by a gold standard, in an extraordinary manner. Large masses of silver have been demonetized and thrown upon the market. But, on the other hand, large masses of gold have been required to take their place, while, as has been shown, the supply has been actually diminishing."

The *Economist* concludes that there has been a real fall in prices to the extent of sixteen per cent since 1869. "This is an undoubted appreciation of gold, because it represents a real increase in the purchasing power of gold."

What does an increase of sixteen per cent in the purchasing power of gold practically mean?

It means an addition of one sixth to the burden of every existing debt, national, corporate, and private, payable, as are nearly all the public, and by far the greater part of the private, debts of the world, in gold. It means that, on every day which the laboring man gives to work, to pay his share of the interest and principal of such public debts, or to meet the interest or principal of the mortgage on his cottage or his farm, his hours of labor shall be, not twelve, but fourteen. If those last two hours drag, if brain and hand grow weary with the strain and the toil,

he should know whom to thank, the financiers and political economists who, at a time when the production of the two historical money metals, jointly, was at a standstill, or even diminishing, accomplished the great monetary reform of throwing the stock of one of them, accumulated through thousands of years, out of its uses as money of full power in Europe, remitting it to the office of small change, and sending the remainder to swell the treasures of the Orient: all for the sake of a mathematical and metrical unity of coinage and exchange.

It is not a nice question to decide what the United States ought to do, in this situation. To re-establish bimetallism, to restore silver to its rank as money of full debt-paying power throughout Europe and America, is not the work of any one nation, least of all of a nation which uses, and ever has used, so little specie as the United States \*

For us to commence the free coinage of silver at 16:1, while the market ratio is 18.1, would be to hazard the success of resumption, and make it certain that we should lose our gold, so painfully gathered for the purpose of enabling us again to look the world in the face. In two, three, or four years, at the latest, we should be reduced to a solid silver basis, having a par-of-exchange indeed with India and China, with which we trade little, but having no par-of-ex-

\* The amount of specie in the United States prior to 1861 has been very variously estimated, but the most liberal estimate would not show that we had at any time in circulation or on deposit one third as much specie as France. One fourth would probably be nearer the truth.

change with Europe, with which we trade much and increasingly

For us to throw ourselves alone into the breach, simply because we think silver ought not to have been demonetized, and ought now to be restored, would be a piece of Quixotism unworthy the sound practical sense of our people. The remedy of the wrong must be sought in the concerted action of the civilized States, under an increasing conviction of the impolicy of basing the world's trade on a single money metal. The demonetization of silver was a work of ill-advice, let its restoration be a work of good advice. The subject is not likely to lose its hold on the public attention so long as gold continues to rise in value. Let us await the time to act with effect, and not forfeit our present remarkable commercial success, and imperil resumption, by measures which can do no lasting good to the cause of silver and may do much harm to ourselves.